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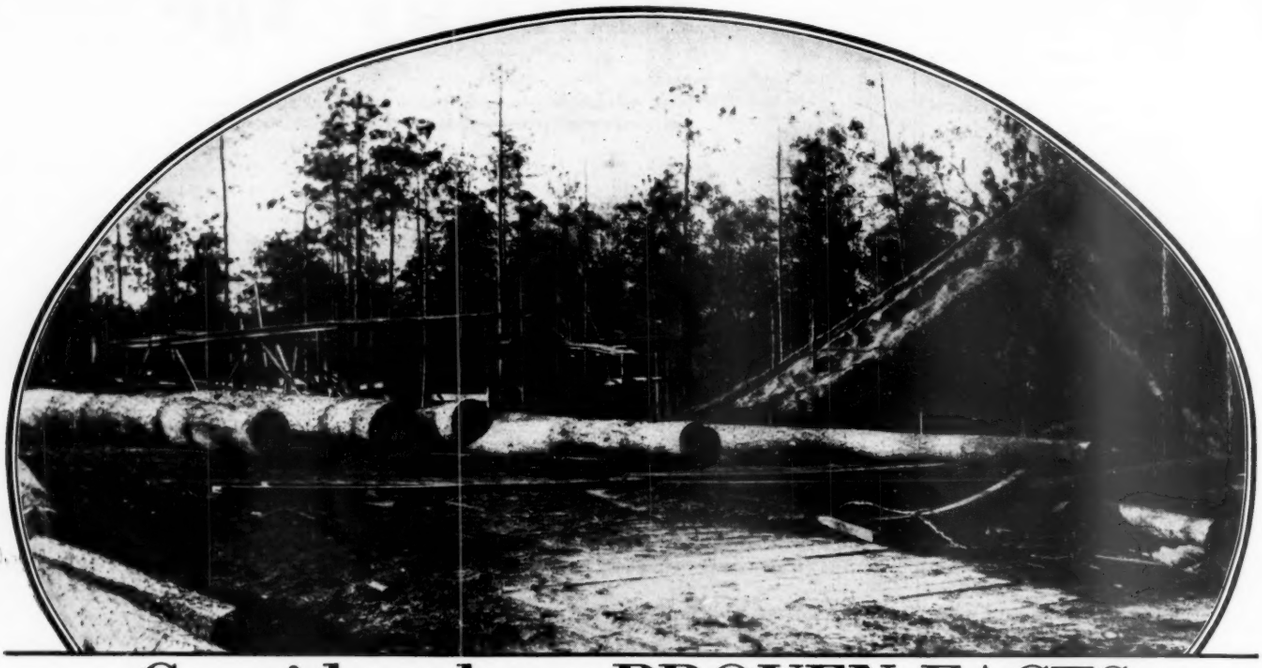

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RAILWAY AGE

Commissioner Eastman's Address

Even those who completely disagree with Joseph B. Eastman on the question of government ownership concede that he is one of the best informed and ablest men who have ever been members of the Interstate Commerce Commission. In the address which he delivered before the New York Traffic Club on May 20 Mr. Eastman presented clearly and constructively some of the problems with which the railroad industry is confronted. He did not, in this address, advocate government ownership as a solution of these problems. He did say, however, "I have an abiding conviction that the sound and sensible way to carry on such a business is for the government to assume complete responsibility for it, and that such a plan would be preferable to the present system of divided responsibility and dual control."

Mr. Eastman's address afforded a good illlustration of the disadvantages of "the present system of divided responsibility and dual control." Under this system railway managers have certain responsibilities and duties, and the state and federal governments have certain other responsibilities and duties. The federal government has delegated its responsibilities and duties with respect to transportation principally to the Interstate Commerce Commission. Mr. Eastman devoted most of his address to pointing out that the troubles and present plight of the railroads are largely due to shortcomings of management, and to emphasizing that better co-operation between their managements is essential to the solution of the problems of the industry. Although himself more influential than any other man in shaping government transportation policies, he said almost nothing about the extent to which the present railway situation is due to government policies.

Duty of the Railroads

With what Mr. Eastman said regarding the lack and the need of co-operation between the railways regarding rates and service, and what they should do to effect economically sound co-ordination of the railways and other means of transportation, the *Railway Age* is in almost complete accord. In fact, in its own way, this paper repeatedly has pointed out, as Mr. Eastman did in his address, that "in recent years the railroads have done remarkable work in increasing the economy and efficiency of their operation, but the wastes which they have attacked are those which they could individually eliminate," and that "they have made much slower progress in attacking the wastes in service and revenues for which they are jointly responsible and which can be eliminated only through co-operation." With regard to the various means of transportation, we agree with him, and repeatedly have emphasized, that "from the public point of view the end to be attained is provision of the best composite system of transportation with a minimum of unnecessary duplication and competitive wastes," although "as a practical matter it may be and probably will be impossible wholly to achieve this ideal."

Individual railways should effect the greatest economies in operation compatible with the rendering of good service. Railway managements should co-operate in study and action to the end that the public shall be as well served as practicable by the entire railroad industry at the lowest practicable cost. The railways, individually or jointly, as may be best in the circumstances, should carry out a policy of sound co-ordination of the various means of transportation. All these things are essential to a satisfactory solution of the national transportation problem.

But after this counsel of perfection had been adopted by the managements of the railways would the national transportation problem be solved? By no means. Referring to the government transportation policies advocated in the railway executives' "Declaration of Policy," Commissioner Eastman said, "Even assuming that those policies are sound and wise, I cannot help feeling that the declaration was inadequate to the needs of the times, and that the greater importance lies in matters which it did not mention." Agreeing, as we do, with Mr. Eastman as to the importance of the matters he mentioned in his New York address, we entirely dissent from his im-

plication that they are of more importance than the things mentioned in the Declaration of Policy.

Whatever may have been the shortcomings of the managements of the railways during the last decade, the present railway situation is due in much smaller measure to them than to policies of state legislatures, Congress and the Interstate Commerce Commission. Furthermore, the fact often is overlooked that railway managers have an important difficulty to overcome in dealing with the problems of the railroad industry that the Interstate Commerce Commission does not have. The primary responsibility and duty of each railway manager is to his own railroad, which is in competition with other railroads, and he can never fairly or safely disregard the interests of his own railroad in making his contribution to the solution of the problems of the industry. The shortcomings of railway managements in dealing with the problems of the industry to which Mr. Eastman referred are principally due to this fact, and as long as competition between railroads is actually required by law we can never avoid having some of the bad as well as the good effects of competition.

Performance of Railways and Commission

Now, let us briefly compare what railway managements, on the one hand, and government regulating authorities, on the other hand, actually have done during the eleven years since the Transportation act has been in effect to solve the transportation problem. Under that law the railways were returned to private operation with an assurance that if they were economically, efficiently and honestly managed they would be so regulated as to enable them to earn, as nearly as might be, a fair average annual return. The law required competition, and therefore only for the effects of competition in excess of what the law contemplated can the railways be condemned in determining whether they have exercised the efficiency and economy upon which their right to earn a fair return was conditioned. It is universally admitted that service, especially freight service, has been greatly improved. The fact that in 1929 operating expenses were $163,300,000 less than in 1926; $290,000,000 less than in 1923, and $1,300,000,000 less than in 1920, is surely evidence of constantly increasing economy. If further evidence is needed, it is afforded by the fact that in 1931 operating expenses are running at the rate of $700,000,000 a year less than in 1930, and $1,000,000,000 a year less than in 1929.

Both wages and rates were reduced in 1921 and 1922. As thereafter the railways were conducted, in spite of admitted shortcomings in management, with reasonable efficiency and economy, considering the competitive conditions, which is all any fair-minded person or court would hold that the law required, it became the responsibility and duty of state and national governments to so deal with them as to help them in every reasonable way to earn, on the average, a fair return upon the value of their properties. How did the state and federal governments perform this duty? Without relaxing their restrictions on the railways, they turned loose upon them subsidized and unregulated competition by highway and waterway. The Interstate Commerce Commission sought to establish a basis of valuation for rate-making plainly lower than that authorized by decisions of the Supreme court; and in addition, although the railways year after year failed to earn a fair return even on the basis of valuation favored by the commission itself, it repeatedly refused advances and made reductions in rates. It is principally owing to these policies of government, and only in much smaller measure to shortcomings of railroad managements, that the traffic and general rate levels of the railways are proving inadequate during the depression to enable them, in spite of the most drastic retrenchments, to earn even their fixed charges, much less a fair return.

"Buck Passing" No Solution

It is natural, in view of these facts, that the officers of the railways should blame government regulation for their present plight. It is also natural that Commissioner Eastman should point out shortcomings of railway managements that have contributed toward producing the present railway situation. Obviously, however, this "passing of the buck" from the railroads to the commission, and from the commission back to the railroads, will not help to solve the nation's transportation problem unless it results in each of them conceding the mistakes in its own policies and largely correcting them.

Practically all railway executives concede privately, and many of them publicly, that under the stress of competition the railways have failed to co-operate enough; but they are trying more and more to reduce by co-operation the wastes due to competition. Are the state and federal governments, and especially the Interstate Commerce Commission, trying as hard as the railway executives to correct their shortcomings which have contributed toward creating the present railway situation? Commissioner Eastman's lecture to railroad managements regarding their shortcomings and duties would have been much more appropriate and encouraging if accompanied by some statement indicating that the Interstate Commerce Commission now realizes that the policy of regulation of rates that it has followed under the Transportation act has not only disregarded the provisions of that act, but has been a serious mistake from the standpoint of the railroads, of their employees and of the public.

The present system, as Commissioner Eastman stated, is one of "divided responsibility and dual control." Members of the commission are in no position consistently to criticize railway managements for having failed to do the best they could as long as the commission continues persistently to fail and refuse to assume the responsibility and perform the duty of regulating rates as it is plainly required by law to regulate them.

British Consider Complete Electrification

The feasibility of electrifying all of the 20,000 miles of standard gage lines in Great Britain has been studied by a committee appointed in September, 1929, by the Minister of Transport. The calculated cost of main line electrification is about one and one-quarter billion dollars, apart from a further possible expenditure of 219 million dollars for "intensifying" suburban services. It is estimated that the first mentioned investment might earn a return of 7 per cent and that on suburban lines should yield 13 per cent. The necessary power supply facilities to be provided by the Central Electricity Board or other power producers would cost about 389 million dollars.

Some of the committee's conclusions are in substance as follows: An efficient and progressive railroad system is and will continue to be of vital importance to the nation; reasons for electrification in other countries do not apply in Great Britain; economic success of suburban electrification has been due to improved service, resulting in increased revenue; increased use of power would decrease power costs and accelerate rural electrification; railroad electrification offers important indirect advantages associated with speed, comfort, amenity, improved service and increase of capacity; the scheme would benefit labor and the British electrical industry. The committee also points out that the present expenditure for hard-surfaced roads in Great Britain amounts to more than 290 millions a year and that this expenditure provides subsidized competition to the railways. In its conclusion the committee states that the mere magnitude of the sum involved should be no deterrent in itself to the most careful and earnest consideration of the economic and social merits of the plan.

It appears from this and the general tone of the report, that while the committee is essentially a fact-finding body, it is nevertheless inclined to indorse the plan. Perhaps the members have been somewhat carried away by the thought that the magnitude of the undertaking, to quote the report, "would be unique in the history of world enterprise." Generally speaking, electrification is most practicable economically for heavy grade, suburban, and tunnel operation, particularly when these conditions involve also heavy traffic.

An electric traction system can operate at its best advantage when it is comprehensive and does not require joint operation with steam trains. The British plan depends for its success economically on complete electrification of all lines. The scheme also apparently contemplates the creation of rail transportation which is so good that paralleling highway transport systems will not be able to compete, even though heavily subsidized by being provided with a practically free roadbed. Under these circumstances, the expenditure for railroad facilities must be unnecessarily large. It would seem that equal privileges and similar regulation for both types of transport systems must first be obtained before it will be possible to plan for and estimate the value of such an all-inclusive electrification program.

Freight Business Down to 1921 Level

Carloading statistics indicate that the decline of railroad freight business which began in October, 1929, and has continued steadily for twenty months, has at last brought traffic in 1931 down to a level with that of 1921. Considering that 1921 was a year of severe depression, and that ten years have since elapsed, this is a significant and even startling fact.

The average number of cars loaded weekly in the first 20 weeks of 1921 was 704,127, and in the first 20 weeks of 1931 it was 726,014, an increase of about 3 per cent. In the early part of 1921, however, average loading per car was greater than it has been in 1931, and allowance for this difference makes necessary the conclusion that when complete statistics are available they will show that in the first five months of 1931 railroad freight business was no greater, and may have been slightly less, than in the first five months of 1921.

This is the first time in the history of the railways of the United States when, in a year of depression, their freight business has declined to as low a level as in any year in an earlier depression. In 1921, although it was a year of depression, total railroad freight business was 21 per cent greater than a decade before, although 1911 was a year of prosperity. In the first 20 weeks of 1931 car loadings were almost 18 per cent less than in the corresponding part of 1930; 24.7 per cent less than in 1929, and 23 per cent less than they averaged in the five years 1925 to 1929.

This great disparity in the changes in the volume of railroad freight business between 1911 and 1921, and between 1921 and 1931, is due to various causes, the principal one being the competition of other means of transportation which have been enabled by government aid to take traffic that otherwise would be moving by rail.

Defenders of the subsidization of transportation by waterway and highway, and of entirely unequal regulation of different means of transportation, claim that the subsidized and unregulated means of transportation will create new traffic in which the railways will share. They may well be asked to explain why the first decade during which the railways have been especially subjected to the competition of these subsidized and unregulated means of transportation happens to be also the first decade at the end of which railroad freight business ever was no larger than ten years before.

North Western L. C. L. Delivery Approximates Express Service

By consolidating stations fewer cars are used and trains are operated 350 miles in 14 hr.

An "X" Train Carrying Shipments on Trailers Leaving the Merchandise Mart For Proviso

BY ESTABLISHING a less-than-carload freight transfer at Proviso, Ill., the Chicago & North Western has so expedited the handling of this class of merchandise that it now gives deliveries approximating express service on nearly all shipments from Chicago. In addition, the opening of the transfer has made it possible to extend the closing time of Chicago receiving stations from 4 p. m. to 5:30 p. m. and still dispatch the day's collections before 8:15 p. m. on the same day. While the transfer has speeded up the movement of shipments from Chicago and adjacent territory, it has also facilitated the handling of freight moving to or through Chicago, including that interchanged with other roads, while at the same time it has afforded a marked reduction in the cost of handling freight, and has been effective in decreasing handling damage.

Another advantage of the concentration at Proviso has been the saving in cars. At present approximately 150 less cars are required each day to handle the same amount of business that was formerly handled at the various stations. This is due to the fact that formerly each station received and dispatched cars and consequently several cars were loaded for the same place, while at present shipments for one point are concentrated at Proviso and loaded in only the required number of cars. As a result of this procedure, the loading per car has increased from about 5.4 tons to more than 6 tons and in some months to more than 7 tons per car.

The Proviso l.c.l. freight transfer, which was opened on October 1, 1927, and the layout of which was described in the *Railway Age* of November 5, 1927, page 876, is located 13 miles directly west of the Madison Street passenger terminal on the Chicago-Omaha main line. It has direct connections with the Indiana Harbor Belt, the Belt Railway of Chicago and the Baltimore & Ohio Chicago Terminal, which in turn, by skirting the congested inner zone of the Chicago area, save from 24 to 48 hours' delay on a large portion of the traffic tendered for movement over the North Western. It is also advantageously situated for the free movement of freight west and north, since it has a direct connection, over the Des Plaines valley cutoff, with the lines to St. Paul, and to points in eastern Wisconsin and northern Michigan. This cutoff enables trains to enter and leave Proviso without passing through the congested area of Chicago.

Before the transfer was placed in service, cars were received and dispatched at each of 26 stations in the Chicago territory. Some stations did not load full cars for specific points, and consequently many more cars were required than at present to handle an equal amount of business. In addition, much time and effort were expended at such outside points as Clinton, Iowa, West Chicago, Ill., and Milwaukee, Wis., in transferring freight from one car to another and the necessary rehandling resulted in frequent damage. The old arrangements were further complicated by freight from foreign lines billed to North Western points and by foreign freight billed to the North Western for points beyond. The former was usually received at the Grand Avenue or Sixteenth Street stations, both of which are located near the central part of Chicago, and was there loaded for forwarding to the destination stations. If these were in the Chicago territory, delay was incurred because of the difficulty in moving cars through the congested area. Under the new method of handling l.c.l. freight into Chicago, cars of merchandise for stations in the central part of the city are loaded direct to the Grand Avenue station, while shipments for suburban stations are received at the Proviso transfer where they are consolidated and then forwarded. With this arrangement, 75 per cent of the inbound merchandise for Chicago is unloaded and ready for delivery at Grand avenue by 8 a. m. The balance of this l.c.l. traffic is unloaded and ready for delivery prior to noon. Of the inbound merchandise for Chicago suburban points, 75 per cent is transferred at Proviso and then placed ready for delivery at suburban stations by 8 a. m. and the balance is ready for delivery before noon.

Shippers and Railroad Profit by Fast Schedules

Although shippers and receivers in the Chicago territory have received the greatest benefits, the advantages of faster service have not been confined to this territory. Under the new arrangement, the North Western is able to give next-morning delivery on l.c.l. freight moving out of Chicago to all points within a radius of 200 miles, next afternoon delivery at points within 350 miles and second morning delivery within 600 miles. This is a marked improvement over the former service which made it impossible to keep schedules consistently.

The l.c.l performance on the North Western is best shown by a comparison with that of the other railroads operating out of Chicago, using figures compiled by the transportation department of the Chicago Association of Commerce and covering almost all l.c.l. shipments. During December, 1930, when the railroads operating out of Chicago made the best on-time performance of any month during the year, a total of 50,723 cars of l.c.l. freight were forwarded, of which 49,168 cars or 96.94 per cent arrived on time, 1,207 or 2.38 per cent were one day late and 348 or 0.68 per cent were two or more days late. During the same month the North Western forwarded 9,401 cars, of which 9,300 cars or 98.92 per cent arrived at destinations on the North Western or on connecting lines on time, 86 cars or 0.92 per cent were one day late and only 15 cars or 0.16 per cent were two or more days late. It is also interesting to note that of 5,263 cars forwarded on a one-day schedule, 5,242 or 99.6 per cent arrived on time, and of the 3,072 forwarded on a two-day schedule, 3,039 or 98.92 per cent arrived on time. Other performances, with a comparison with all Chicago railroads, follow:

Schedule in Days	No. Cars Forwarded	No. Cars On Time	Per Cent	No. Cars 1 Day Late	Per Cent	No. Cars 2 or More Days Late	Per Cent
		C. & N. W.					
1	5,263	5,242	99.60	16	0.30	5	0.10
2	3,072	3,039	98.92	31	1.11	2	0.07
3	505	475	94.05	24	4.75	6	1.19
4	137	132	96.35	5	3.65	..	...
5	26	25	96.15	1	3.85	..	...
6	31	29	93.54	2	6.46	..	...
7	271	267	98.52	3	1.11	1	0.37
8	96	91	94.79	4	4.17	1	1.04
	9,401	9,300	98.92	86	0.92	15	0.16
		ALL CHICAGO ROADS					
	50,723	49,168	96.94	1,207	2.38	348	0.68

Movement From Stations to Transfer is Scheduled

Since 99 per cent of all North Western l.c.l. freight is received at eight of the 26 freight stations in the Chicago territory, it is required that all of the l.c.l. freight received at these eight stations up to 5:30 p. m. must be forwarded to the transfer at Proviso on the same day. Because the other 18 stations are only short distances from these eight, important freight received at the smaller stations late in the day can be handled through the larger ones. The freight is normally moved from the eight stations to Proviso by rail, although in a few instances motor trucks have been employed in order to comply with urgent requests to handle important shipments. Shippers to whom the time element is exceptionally important often carry their own freight to Proviso by motor trucks. Prior to the establishment of the transfer, outbound merchandise cars were loaded out of Grand Avenue, Wood Street, Sixteenth Street and Fortieth Street stations, and owing to the labor necessary to switch all these cars at the Crawford Avenue yard it was impossible to move the bulk of the cars out of Chicago prior to 1 a. m. Under the present arrangement, all merchandise is scheduled to leave Proviso prior to midnight.

Because of the volume and importance of the freight moving from the Grand Avenue and Sixteenth Street stations to Proviso, the company has established especially rigid schedules for these stations. Freight tendered for shipment at these points is immediately marked and verichecked to the Proviso loading unit. To eliminate double handling and thereby reduce damage and save time, it is loaded on trailers and placed in specially designed box cars which accommodate 15 trailers or an average of 5.2 tons of freight and which carry it to Proviso over main line passenger tracks. Here it is transferred to the proper outbound cars without delay, the loading instructions having been placed on the trailers at Grand avenue and Sixteenth street.

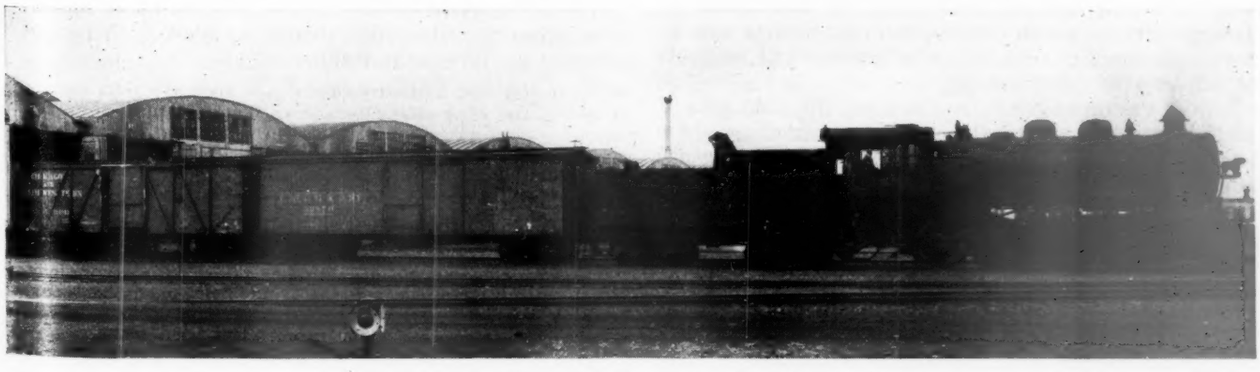
Trains of these special cars leave Grand avenue each day at 12 noon, 4 p. m. and 6:15 p. m. and move to Proviso, 13 miles, in 50 min. or less. Other trains leave Sixteenth street at 3 p. m. and 6:15 p. m. and move to Proviso, 16 miles, in 60 min. or less. All freight delivered at Proviso up to 7:30 p. m. is dispatched that day. The facilities at Grand Avenue were moved on May 11 to the new Merchandise Mart freight station, which is bounded by the Chicago river and Ferry, Kinzie and Wells streets, and the same arrangements are in effect for handling l.c.l. freight to Proviso.

Train Departures Concentrated

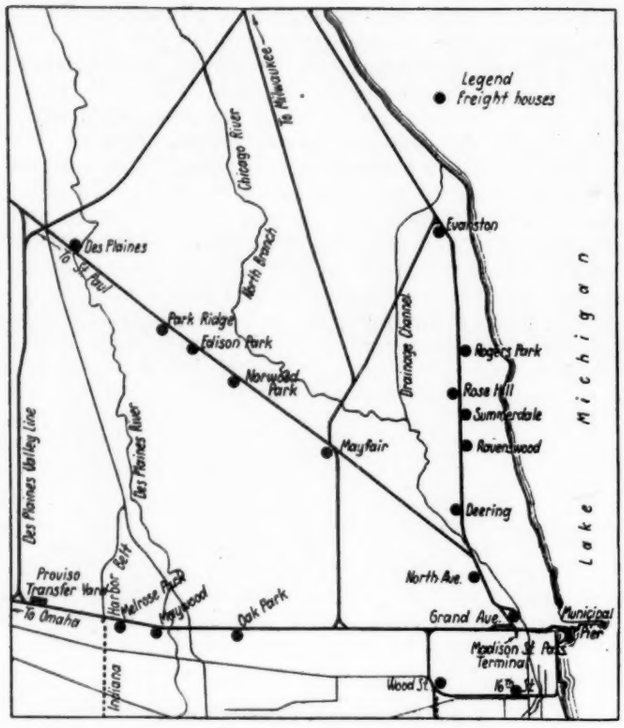
The l.c.l. train operations from Proviso, which involve a daily outbound movement of 425 cars, are concentrated in a short period of time. Of the 22 trains dispatched from Proviso carrying l.c.l. freight every 24 hours, 15 are dispatched between 8:15 p. m. and 9:45 p. m. Of the latter, four are solid merchandise trains that require no switching.

Two of the outstanding effects of the transfer on train operation are shown in the movement of l.c.l. freight to Boone, Iowa, and Green Bay, Wis. Each day an l.c.l. train, the Aksarben, leaves Proviso at 8:45 p. m. with from 75 to 80 cars for the west and arrives at Boone, Iowa, 350 miles distant at 10:45 the next morning. Another train leaves daily at 9 p. m., with about 65 cars for Green Bay, and completes the 215-mile run at 6:15 a. m.

Besides the advantage gained through speedier operation, the new method requires less handling of cars. At present, cars for points between Clinton, Iowa, and Boone, can be operated in solid trains to Clinton and then be placed in way freights for intermediate points without rehandling, whereas formerly these cars moved in several trains and were delayed at Clinton while freight was transferred to peddler cars and way-freights were made up.



Four Solid Merchandise Trains Leave the Warehouse Each Day



Proviso Transfer Advantageously Located With Respect to Other Facilities

Another improvement for which the transfer is responsible is the speeding up of shipments to points on eastern railroads. For example, merchandise for Detroit leaves Proviso at 4 p. m. and arrives at Detroit over eastern carriers at 7 o'clock the next morning, while cars loaded at 4 p. m. arrive at Pittsburgh on the second morning. The schedules on eastern merchandise cars loaded over the North Western are the same as those on eastern merchandise loaded direct on eastern lines in Chicago.

Waybills Go By Passenger Train

In order to meet the tight schedules maintained to certain points, some trains are dispatched before the waybills are completed, and the latter follow by passenger train. For example waybills for shipments to Cedar Rapids, Iowa, and other important points, are rushed to the Madison Street terminal by automobile at 9:15 p. m. daily to catch a passenger train which leaves at 10 p. m., so that they will arrive at destination before the freight which left Proviso at 8:15 p.m. The waybills for shipments north of Fond du Lac, Wis., west of Clinton, Iowa, and west of Milwaukee, which leave before 8:15 p. m., are completed before 10:30 p. m. and placed on passenger trains which deliver them to destinations so that the cashiers can record the shipments and be ready for delivery the next morning.

Besides the improvements in service, the reduction of handling damage and the lower cost of handling, there have been other advantages resulting from the consolidation at Proviso. One of these is a substantial reduction in way-freight overtime hours. Formerly many cars were sent from the various stations and as a result wayfreights had many cars and the crews were forced to peddle from as many as three cars for one small station. Now fewer cars are handled and the crews deliver from less cars. In some instances, the three freight cars from which freight was delivered to small towns, have been reduced to two and even one.

Another favorable outcome has been the transformation of inadequate facilities into economical units. When cars for the same points were loaded at the several stations in Chicago, the facilities at these points were taxed and were often unable to handle shipments with regularity. Now the number of cars received is less, although the volume is greater, and the facilities that were inadequate are now able to handle the business without difficulty.

Dismissal of Grain Rate Stay Asked by Commission

THE carriers in the Western district, on May 25, filed a brief with the United States District Court at Chicago, replying to an earlier brief filed by the Interstate Commerce Commission and other defendants, which asked that the temporary stay, granted on May 7, to restrain the commission for 60 days from placing its grain rate reduction order in effect on June 1, be dismissed. The temporary stay was issued by the court upon petition of the western railroads, pending action on the carriers' petition for a temporary injunction. Concurrently with the commission's brief, the railroad and public service commissions in all states affected by the downward revision of rates on grain and grain products, filed a joint brief supporting the Interstate Commerce Commission position on the issues involved.

The commission in its brief, which was prepared by E. M. Reidy and H. L. Underwood, assistant chief counsel for that body, and Daniel W. Knowlton, states that "following the most comprehensive investigation in its history, the commission found the shippers entitled to these just and reasonable rates; that this finding was made last July 1, but as yet the shippers have not received the benefit of this finding; that, with the carriers' claim of a revenue loss of $20,000,000 per annum as a basis, the voluntary extension by the commission of the effective date of its order from October 1, 1930, to June 1, 1931, has meant a saving to the carriers of $13,333,333; that with the grain moving season about to start, the time is appropriate for the actual test of these rates that the commission earnestly requested the carriers to make in order that the actual effect of the rates may be ascertained and any readjustments, which may be demonstrated by such actual experience to be necessary, may be promptly made by the commission, and that the strong presumption in favor of the conclusions reached by an experienced administrative body after a full hearing has not been overcome by the carriers' affidavits."

The commission summarized its arguments in support of its plea that its order should be allowed to become effective on June 1, as follows:

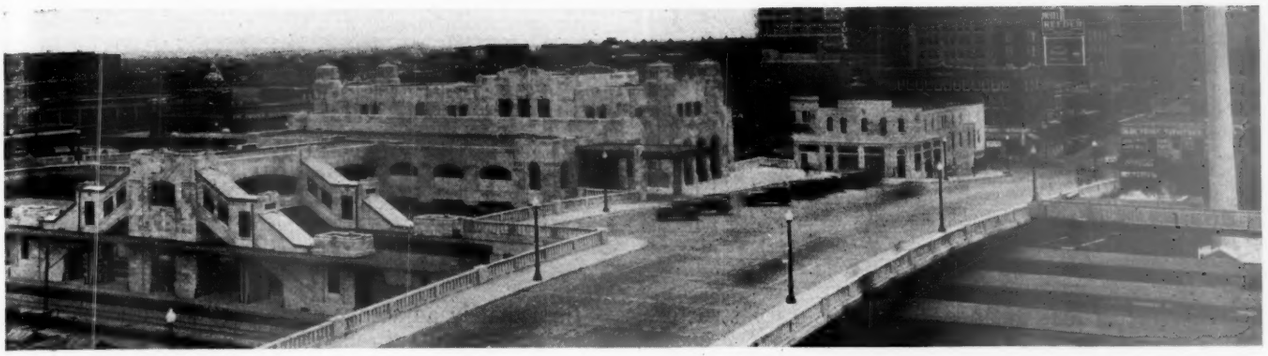
The power and authority of the commission in rate making is administrative in character and its determinations as to reasonableness of rates and practices in connection therewith are conclusive, if based upon substantial evidence. There is here no allegation that such evidence was lacking, and there is no basis for reviewing the sufficiency of the order as the record is not before the court.

There was no misinterpretation of the applicable law nor misapplication thereof in the proceeding, findings and orders.

There was no abuse of discretion by the commission in denying the several motions for rehearing, reargument, and (or) modifications of the commission's findings and order, nor were there any irregularities in the proceedings.

Petitioners have not made out a case warranting the issuance

(Continued on page 1066)



General View Looking Southeast—Boston Avenue Entrance and Track Concourse

Tulsa, Okla., Opens Union Depot

Project serves three railways and includes track depression and grade separation

OWING to the continued rapid growth in population of Tulsa, Okla., the passenger facilities of three of the four railways entering this city, which had been enlarged and remodeled from time to time as necessity demanded, but which had again become inadequate, have now been replaced by a commodious union station, located on the site of the old St. Louis-San Francisco station, which was opened for service on May 12 by these three roads. The new facilities, which were completed at a total cost of approximately $3,500,000, include, in addition to the station and platforms, separate passenger and freight tracks, a power plant, the depression of the tracks and the construction of four viaducts to eliminate all street crossings at grade within the station area, together with such track changes and new connections as are necessary to give the participating roads easy access to the station layout.

Since its entrance into Tulsa in 1912, the Atchison, Topeka & Santa Fe has used the St. Louis-San Francisco passenger station which is located immediately north of the business district. The other two roads, the Missouri-Kansas-Texas and the Midland Valley, have heretofore maintained separate stations, both located a short distance from that of the Frisco.

Traffic Problems Increase

With the growth of the city and the increasing number of motor vehicles, traffic problems began to intrude. Of late, since all street crossings with the railways in the vicinity of the business district were at grade, traffic delays on the important streets have become serious. The railways were also hampered by the necessity of cutting their trains at these crossings. The need for relief from these conditions resulted in negotiations between the city and the railways, looking to the elimination of the grade crossings at certain important streets. The city also desired a union station and, since the existing stations operated by the Frisco and the Missouri-Kansas-Texas had again become inadequate, this question was included in the discussion, the M-K-T having expressed a willingness to avail itself of the suggested facilities.

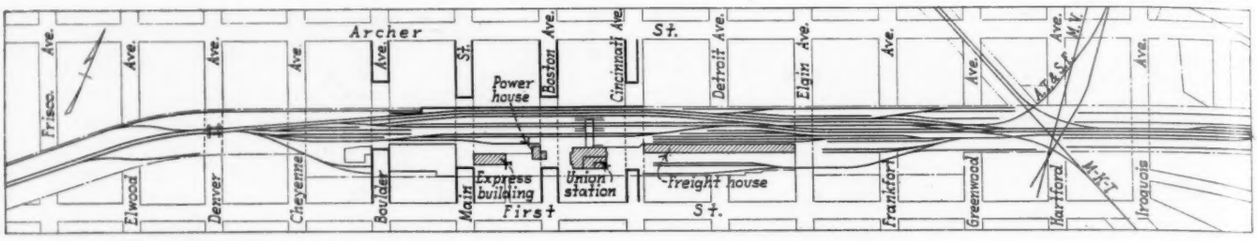
As a result of these negotiations, viaducts have been built over the Frisco tracks at Main street and at Boulder, Cincinnati and Boston avenues. The first three eliminate grade crossings, while Boston avenue is newly opened across the station area. The viaduct plan was adopted as better adapted than any other to meet the topographical conditions and the grade line of the Frisco tracks. The elevated roadway on Cincinnati avenue is confined to a width of 58 ft., to allow room for a marginal roadway on the east side of the street, which provides access to the station facilities on the lower level. The remaining structures occupy the full width, 80 ft., of the streets upon which they are located.

To keep the viaduct approaches within the nearest cross-street intersections and still provide practicable approach grades and overhead track clearance, it was necessary to lower the Frisco tracks a maximum of 7 ft. from Denver avenue to Frankfort avenue, about 2,900 ft. This, in turn, required the complete elimination of the existing station and the construction of a new station with the general waiting room and incidental facilities directly accessible from the viaduct level.

Union Depot Company Organized

For the purpose of financing the construction of the new station and its appurtenant facilities, including the railways' share of the cost of the viaducts, a company, known as the Tulsa Union Depot Company, was organized by the three participating roads, each of which, the Atchison, Topeka & Santa Fe, the Missouri-Kansas-Texas and the St. Louis-San Francisco, owns an equal amount of the capital stock. Under a mutual agreement with the Frisco, however, upon whose property the new station is located, the ownership will revert to that road after 30 years. The new station is located between Boston and Cincinnati avenues, substantially on the site of the former Frisco station. Its use by the three roads mentioned leaves the Midland Valley, which handles its passenger traffic in rail motor cars, as the only railway in the city which maintains a separate station, the M-K-T having abandoned its former station upon the completion of the new facilities.

Owing to the difference in elevation between the tracks and the roadway on the viaducts, the station building is of two-story construction, although it has a height



Map Showing Location of Tulsa Union Station and Track Connections

comparable to that of an ordinary five-story structure, with waiting rooms, ticket office and two concourses, one paralleling the main structure and the other extending at right angles over the tracks, at street level. The baggage and mail facilities, the station master's office and the trainmen's locker and wash rooms are at track level.

A driveway, which is located between the baggage and mail rooms and the trainmen's quarters, and which connects with the marginal roadway on Cincinnati avenue, serves the former of these facilities. Elevators and spiral chutes lead from the baggage checkroom on the upper level to the hand baggage storage room which is adjacent to the baggage room. The baggage and mail rooms are provided with loading and unloading platforms at wagon-bed level. A mezzanine floor below the ticket office, reached by means of a private stairway, provides storage space for tickets and room for accounting.

Floor Arrangement

All facilities for handling passengers through the station and providing for their comfort are located on the upper level. The general waiting room, 88 ft. by 49 ft., occupies the central area on the west or Boston avenue side of the building. It is flanked on the south by rest and toilet facilities, those for men and women being separated by a telegraph and telephone office. On the north are a news stand, a drug store and quarters for the Travelers' Aid. The waiting room for colored passengers, 30 ft. by 49 ft., occupies a similar position on the Cincinnati avenue or east side of the building, and is also provided with toilet and rest rooms. The ticket office and baggage checking rooms are located between the two waiting rooms.

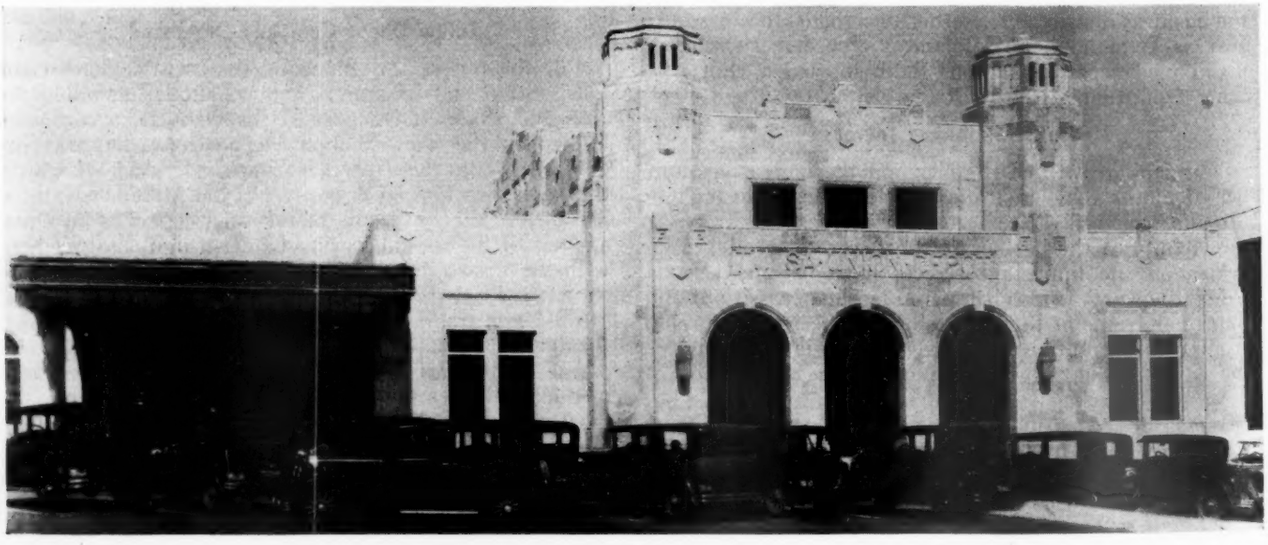
Immediately adjacent on the north, and connected to the waiting rooms through wide vestibules, is a covered concourse, 27 ft. wide, extending from Boston avenue to Cincinnati avenue. At the center of this concourse and at right angles to it, a second or train concourse, 24 ft. wide, extends to the north over the station tracks, with easy stairways on either side, which give access to the passenger platforms. A coffee shop is located on the north side of the covered concourse, opposite the general waiting room.

Porte-cochère entrances from the viaducts, each of which is protected by a marquise extending to the street curb, are provided for reaching the covered concourse from both Cincinnati avenue and Boston avenue. Direct entrance from these streets to the respective waiting rooms is made through wide, deep loggie, each of which lies between the towers on either side of the facade.

Indian Motif in Design

While the design of the building emphasizes its functions, it does not follow any traditional or historic style. The general outline shows the mass gradually building up and culminating at the center above the waiting room. The well balanced projecting wings on either side give a simple dignified architectural effect, the underlying motif of which is a blending of the art of the Central and North American Indian with modern American forms.

Steel and concrete construction is used throughout, the exterior finish being varying shades of buff Bedford limestone. All floors on the upper level are terrazzo, except in the concourse where the floor is laid with quarried Romany tile. The general waiting room is finished with a 10-ft. dado of polished marble wainscot, the panels of which are separated by marble pilasters. Above the dado, the finish is California stucco, giving a



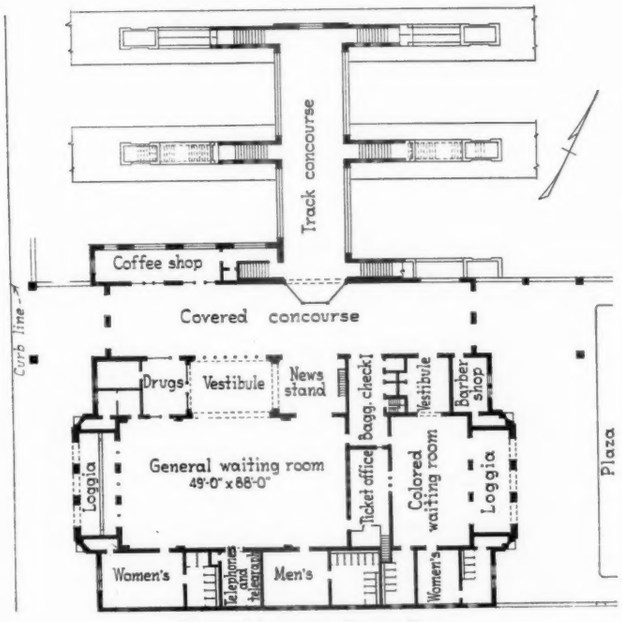
A Close-Up of the Boston Avenue Entrance

Travertine stone effect. The decorated paneled ceiling, which is 35 ft. high, is finished in artistic well-balanced tints which blend harmoniously with the walls and floor, the effect of the whole color scheme being simple, but dignified and refined.

Every room is finished differently, the color scheme being changed to harmonize with the several interior designs. Tile replaces the marble for the dado in the colored waiting room, while pleasing panels of brick wainscot provide the dado for the two concourses, and the glass area is made as large as practicable in the side walls of the concourse over the tracks.

Other Facilities

Three passenger platforms, each 22 ft. wide and 1,200 ft. long, are provided at track level. They are protected by Frisco-standard umbrella-type train sheds, which consist of steel columns supporting a timber roof, upon which is laid a tar and gravel roofing. A sidewalk, 10 ft. wide, has been constructed at viaduct level, opposite the concourse entrance, extending between Boston avenue



Plan of Waiting Room Floor

and Main street to give passengers ready access to the street cars and buses which operate over Main street.

Other facilities include a stone-trimmed brick power house, in which are installed two 150-hp. Heine water tube boilers designed for burning natural gas. This plant furnishes steam for heating the station; the coach yard, which is located two blocks west of the station; and the Railway Express Agency, which is located in a separate building adjacent to the station. To provide for an increase in business, the express agency enlarged and rearranged its facilities and at the same time lowered the floors in its building 3 ft. to meet the new grade of the depressed tracks.

As has been mentioned, the Frisco tracks in the station area were lowered a maximum of 7 ft. Owing to the fact that the entire width of the right of way in the area is developed intensively, walls were constructed to retain the slopes along the north and south property lines and the freight house tracks, which are located east of Cincinnati avenue and which remain at the original grade. A number of small industries are located north of the tracks and in several instances where buildings

General Waiting Room—Looking Toward Ticket Office and Vestibule

stood on the property line, the walls were constructed to support them. The retaining walls are topped with Cyclone chain-link fence to prevent trespassing.

The Track Layout

To avoid interference by freight trains with the use of the passenger facilities, an independent double track freight line, owned and used exclusively by the Frisco, was constructed north of the station tracks. Six passenger tracks are provided for the station layout, five of which are through tracks and one a stub track, with connection at the west end. In addition, there is a coach yard holding 20 cars, including two tracks for Pullman cars, the latter being served by a 480-ft. extension westerly, 8 ft. wide, of the middle platform.

A complete revision was made of the track arrangement within the station area, including the Santa Fe connection extending for a distance of more than 4,000 ft. from Denver avenue to Hartford avenue. A new connection was provided to give the M-K-T an entrance into the station, and a system of approach tracks was constructed at the east end to facilitate the handling of trains in and out of the station. These changes required a complete rebuilding of the electro-mechanical interlocking which controls train movements over the crossings east of the station.

In constructing and rearranging this layout, all tracks within the area affected were built new with 90-lb. A. S. C. E. section rail laid on treated ties and fully tie-plated. Number 10 double-slip switches and No. 10 turnouts were used throughout, except in the coach yard where the frogs are No. 8.

A Corner of the Colored Waiting Room

The four roads which enter Tulsa converge at a point approximately 2,000 ft. east of the station, so that the main track crossings all occur within a space of about 100 ft. at Hartford avenue, thus making it a simple matter to control the train movements into and out of the station through a single interlocking. The new freight tracks swing to the north immediately west of these crossings to pass around the station and return to the original alinement at Denver avenue on the west, so that through freight movements are made over these tracks without interfering with passenger trains that are using the station.

Santa Fe passenger trains start from or terminate at Tulsa, while those on the Frisco and Katy pass through. Frisco trains make through movements, being the only line using the west end of the station layout, while those from the other two roads are required to make back-up movements through the connections serving them which are located respectively north and south of the Frisco tracks at Hartford avenue, reaching the station through a series of double slip switches and crossovers.

Plans and specifications for the tracks, viaducts and incidental work were prepared in the office of Col. F. G. Jonah, chief engineer, St. Louis-San Francisco, who also acted in the same capacity for the Tulsa Union Depot Company. R. C. Stephens, architect for both

The Covered Concourse from the Cincinnati Avenue Entrance

companies, designed the station and its appurtenances. The railway facilities were constructed under the general direction of Colonel Jonah, with R. B. McKee, resident engineer, in direct charge. The plans for the viaducts and elevated streets were made in Colonel Jonah's office, while the contracts were let by the city and the construction was carried out under the direct supervision of Victor H. Cochrane, consulting engineer for the city.

Plans for the depot building and all other structures and for the track arrangement were approved by Henry W. Wagner, chief engineer, Atchison, Topeka & Santa Fe, lines east, and by Frank Ringer, chief engineer, Missouri-Kansas-Texas.

The Manhattan Construction Company, of Tulsa, was the general contractor for the station, while Reid & Lowe, of Birmingham, Ala., did the grading and track work. The Standard Paving Company, of Tulsa, constructed the Boulder avenue and Cincinnati avenue viaducts, while those on Main street and Boston avenue were constructed by the H. T. Cannady Company, also of Tulsa.

The Chicago & North Western will plant 300 Chinese elms this spring in South Dakota as part of a program to beautify stations. Six trees will be planted at each of 50 stations.

Dismissal of Grain Rate Stay Asked by Commission

(Continued from page 1062)

of a temporary injunction, which will set aside carefully considered action taken upon a voluminous record by the body charged with the administration of the act, particularly as the record is not before the court.

In the brief submitted by the state commissions the attorneys said that instead of being a reason for suspending or revoking the commission order the existing depression constitutes an imperative reason why that order should be made effective at the earliest possible moment.

"The general level of rates which the commission's order would readjust was found," the brief continued "under normal conditions and after the most thorough investigation, to be unreasonably high. In other words, the producers and shippers of grain were found to be bearing more than their fair share of the rate burden. The depression which is affecting the carriers' business is affecting every other form of business as well, but it has brought the grain farmers of the West closer to utter ruin than they have been before in a quarter of a century. We submit that the existence of the current depression, and any diminution of carrier revenues which may have resulted therefrom, can constitute no cause for delaying the effective date of the commission's order herein, unless the commission is prepared to hold that the carriers have been constituted a favored class, to be protected at all cost from the results of economic depressions from which all other industries unavoidably suffer."

The state commissions assert that Section 15a of the Transportation Act was not enacted as insurance against failure of the carriers to earn the return permitted by that section, but as legislative approval of the right of the railroads to be considered in groups in the making of competitive rates, and as a determination of the reasonableness of rate levels in the light of the aggregate earnings of all carriers in a group, based on the aggregate value of the property of all the carriers.

They also state that "whatever changes in rates previously approved or prescribed by the commission will be required by the order, every such change was made upon sufficient evidence that the existing rates do not conform to the standards prescribed by the interstate commerce act; and such changes can afford no basis whatsoever for a conclusion that the commission was moved to make them by a misconception of the Hoch-Smith resolution or of Section 15a or of any other provision of law."

The railroads' brief in reply asserts that the carriers may not be turned out of court merely because they have made no claim of confiscation, and that the commission's order cannot be sustained merely because it produces a more harmonious rate structure. No reduction in rates is needed, they state, to correct whatever inequalities might exist.

Stop, Look and Listen.—The Supreme Court of Kansas in a recent decision—Vance against the Union Pacific—holds that the fact that a railroad train may have been exceeding the city speed limit when it struck an automobile, does not relieve the driver from his responsibility to stop, look and listen before driving over the track. The decision affirmed that of the Cloud County District Court.

Our National Transportation Problem*

Economically sound co-ordination of all agencies in the public interest can be secured only when national and state governments treat all alike

By Samuel O. Dunn
Editor, Railway Age

FOR twenty months the people of this country have been suffering from a business depression. How soon a substantial improvement will come no one can confidently predict. Certain things, however, we do know about this depression. One is that already it has been the longest depression in almost forty years. Another is that it has been produced and prolonged by causes as important in proportion as the depression itself.

Both during the recent years of prosperity, and the more recent period of adversity, these causes probably have affected more or less every industry in the country. They may for a few years have increased the earnings of some industries. Any influence, however, that contributed toward causing the present depression was a bad influence, even though temporarily it may have stimulated business. The benefits derived from the artificial inflation of business fall far short of compensating for the unemployment, the destruction of values, the almost universal physical and mental suffering and the increase of radical sentiment that occur during such a period as the present.

The transportation industry is one of the largest in the country. The railroads are the most important part of that industry. It is often said that the railroads are suffering only with other industries from the depression. I believe they are suffering worse from it and from other influences to which they are subject, and being placed in greater danger by them, than almost any other industry. But suppose they are suffering only as much as other industries. That does not render unnecessary inquiry as to the reasons for our present transportation situation, and especially our railroad situation. It does not help other industries to have the railroads as badly off as they are, and the revival of other industries will not be aided by numerous railroad bankruptcies. Perhaps an inquiry into the reasons for the present railway situation may throw some light on the reasons for the present general business situation. At any rate, the railroads are a very important industry, and without every important industry enjoying reasonable prosperity we cannot long have general prosperity.

Taxes and the Transportation Problem

Both 1921 and 1931, to date, have been years of depression. Let me call your attention to certain statistics of the railways for the first quarters of 1921 and 1931. Total earnings were 19 per cent less in 1931 than in 1921. Operating expenses were 30 per cent less, and the number of employees declined 470,000 or 26 per cent. On the other hand, the taxes paid by the railways to our national, state and local governments were 25 per cent greater. Their taxes are this year almost equalling the total net operating income being earned by them from which to pay interest and dividends upon all the securities representing the vast investment in their properties.

Does this condition prevail only in the railroad industry? By no means. The total taxes paid by all our industries and people in 1923 were $7,234,000,000, and in 1928 were $9,289,000,000, an increase within five years of more than two billion dollars annually. This vast increase of taxes was made during years when business was good; but the taxes of the railroads increased more in proportion in those years than their earnings, and I suspect the same thing was true of most other industries. The earnings of the railroads have now greatly declined during the depression, but their taxes have declined very little. The same thing is true of other industries. Taxes were constantly becoming a greater burden when business was good, and they are in proportion a vastly heavier burden now that business is bad. Increased taxes probably helped to terminate our recent period of prosperity, and have been one of the principal causes of the deepening and prolongation of the depression.

In 1920, after the railroads had been returned to private operation, they were incurring a large deficit because, under government operation, their expenses had been increased much more than their rates, and because, in addition, following their return to private operation, the Railroad Labor Board had granted a large general advance in wages. To restore their earning capacity the Interstate Commerce Commission authorized advances in freight and passenger rates estimated at $1,500,000,000 annually. When a depression began soon afterward there was a universal outcry for general reductions of rates upon the ground that industry and commerce in such a period of depression could not bear the rates then in effect.

The estimated total advance in all railway rates granted in 1920 amounted to only two-thirds as much as the annual increase in taxes that the American people have imposed upon themselves since 1923: but, whereas in 1922 the Interstate Commerce Commission made reductions of freight rates which, on the basis of 1923 traffic, amounted to $656,000,000, and reductions of rates have since continued to be made until, on the basis of the 1929 traffic, they amount to $900,000,000 annually, there has been during the present depression no effective movement started to reduce the enormous burden of taxes under which the nation is staggering. In 1923 the nation's tax bill was 60 per cent greater than its railroad freight bill. In 1930 it was 150 per cent greater. Nevertheless, we are now engaged in a nation-wide discussion as to whether industry and commerce can secure more economical transportation by highway, or inland waterway, or railway, and prac-

* An address before the Associated Traffic Clubs of America at Chicago on May 6, 1931.

tically ignoring the plain fact that the nation's rapidly increasing tax bill is of far more importance to industry and commerce than its railroad freight bill.

Government-Aided Transportation and the Railways

Why have I begun this discussion of our national transportation problem with an excursion into the field of taxes? First, because the huge increase in taxes unquestionably has been one of the principal causes of the prolongation and deepening of the present depression, and thus has been indirectly one of the principal causes of the severe decline of traffic from which the railroads are now suffering. Second, because the increase in the taxes of the railroads themselves has been an important cause of their failure to earn a fair return when business has been good, and of the dangerous decline of their net operating income since business has been bad. Third, because the railways are suffering more now, and are in danger of suffering more in future, from the way in which taxes are levied and spent than almost any other industry.

One of the principal causes of the increase in taxes has been the large expenditures made for the construction and maintenance of highways. Whether these expenditures have or have not been economically justifiable, the fact cannot be disregarded, in considering our national transportation problem, that they have indirectly caused a reduction of about $500,000,000 annually in the passenger earnings of the railways. The bulk of this loss in passenger earnings has been due to the increase in the use of passenger automobiles, but a considerable part of it has been due to the competition of motor buses, and to whatever it has been due it has made it necessary for the railways, if they are to function efficiently, to get more revenues than they otherwise would need from their freight business. Within recent years there has been a rapid increase in the use of the highways for the transportation of freight by truck, and obviously the more freight that the railways could profitably handle which is taken from them by trucks, the higher must be the rates they must get for handling the remaining traffic if they are to function efficiently. The Panama canal was built with money raised by taxation, and much freight business has been diverted to it from the railways. Inland waterways are being improved and constructed with money raised by taxation. The diversion of traffic from the railways to the waterways also makes it necessary for them to charge higher rates on their remaining traffic than otherwise would be necessary.

Now, I certainly do not claim, and I have never heard anybody else claim, in spite of reckless assertions to the contrary, that the railways should have a monopoly of transportation, or that the shipping and traveling public has not a right to use any means of transportation it pleases, and even pay partly in rates and partly in taxes for its transportation if it wants to. But I have heard of nobody excepting Senator Brookhart, who claims that transportation by rail has become so nearly superfluous that within a few years we can dispense with it entirely. Intelligent opinion is unanimous that the railroads for years to come will be very much our most essential and important means of transportation. If that opinion is sound the railroads must be so supported by the public as to enable them to to maintain their properties in good condition and render good service. If they are to be so supported, this must be either by adequate revenues derived from the application of adequate rates to the traffic that they handle, or by public taxation, or by both. If we adopt government ownership of railways they undoubtedly will incur a large deficit which will have to be paid from taxes; and there is, of course, no more reason for paying from taxes part of the cost of water or highway transportation than for paying from taxes part of the cost of railway transportation. The prevailing public sentiment is, however, strongly in favor of maintaining private ownership of railways and opposed to paying any part of the cost of railroad transportation from taxes. As long as that sentiment prevails the railroads must be supported by rates high enough to enable them to derive adequate earnings from the traffic that they actually handle.

Unique Problem of the Railways

Now, the problem confronting the railroads in their effort to get adequate earnings is different from that confronting any other industry. Both public utilities and railroads are subject to a policy of regulation predicated upon the legal and economic assumption that they are natural monopolies and must be controlled and regulated to prevent them from charging extortionate rates and making excessive profits. Most other industries are assumed to be competitive, and, therefore, are not similarly regulated.

As to most public utilities the assumption that they are monopolistic is correct and, therefore, rates made to yield them a fair return will do so because their business and rates will not be affected by competition. As to the railroads, the ground has been cut from under the assumption that they are in any sense monopolies, because most of their traffic has become subject to waterway and highway competition; but no change whatever has been made in regulation to reconcile it with this fact. In consequence, we now have presented the spectacle of the Interstate Commerce Commission trying to force the western railways to make a reduction of $20,000,000 a year in grain rates in accordance with a policy of regulation that assumes railways are virtually monopolies, and of the railways at the same time reducing their rates for day coach passengers and on some important commodities, and being unable to advance many other rates, because of competition that confronts them on every hand. As to no other American industry do we commit the stupidity of regulating it on the theory that it is virtually a monopoly, and then proving the theory is not correct by turning loose upon it intense, increasing and largely subsidized and unregulated competition.

I cannot take enough of your time to review at length the effects upon the railways of the application to them of these utterly inconsistent policies. It must suffice to say that in no year since they were assured by the Transportation act that they would be allowed to earn annually a fair return have they approached that return; that in 1930, in spite of a reduction in operating expenses of $600,000,000 over 1929 gained mainly by drastic retrenchments, they earned an average return of only 3.36 per cent on their investment; and that in the first quarter of this year they probably did not earn at the annual rate of 2 per cent.

There will be a large increase in their traffic, of course, when business revives, but, in view of the competition to which the railways are now subject, it would be hazardous to assume, as long as present government policies prevail, that the recovery of general business alone would restore their earning capacity.

No Sound Co-ordination Without Equal Treatment

One means of helping to solve our national transportation problem which is now widely advocated is that of co-ordination of all means of transportation. I believe in co-ordination as I understand it; and as there is no accepted definition of it I will tell you what I

mean by the word when I use it. Sound co-ordination would be a process which would result in each means of transportation handling the traffic which it could handle at the lowest cost, with allowances for differences in the quality of the service rendered.

When I say "cost" I mean total cost. Railway companies use highways built and maintained by themselves, and the capital charges, maintenance costs and taxes on the investment in their highways are unavoidable parts of the costs incurred in rendering their service.

Motor buses and trucks and carriers by inland waterways use highways built or improved, and also maintained, by the public, and the capital charges, maintenance costs and proportionate taxes upon these highways are essential parts of the cost of rendering transportation service by highway and waterway. Now, you can never have economically sound co-ordination of our different means of transportation until those who render transportation service upon highways and waterways, like those who render transportation service by railway, must pay out of their own earnings all the costs incurred in enabling them to render their service. When the railways pay out of their own earnings all the costs incurred in rendering their service, and the public pays in taxes a large part of the costs incurred in rendering transportation service by highway and waterway, the rates charged and the traffic handled by the different carriers are sure to have no relationship to the total costs incurred in providing their different kinds of service.

In the Ohio river territory the average charge of the railways for moving a ton of freight 100 miles is 88.3 cents, while the average total cost of transporting it between the same points by water is $1.25, of which, however, the shippers pay only 60 cents in rates, while the public pays 65 cents in taxes. There can be no sound economic co-ordination, but only economically indefensible competition, between different means of transportation, where, as in this case, one class of carriers must make rates to cover all its costs, while another class of carriers need make its rates only high enough to cover one-half of the costs actually incurred to enable it to do business.

Carriers by highway deny that they are not paying enough for the use of the highways. Typical statistics appearing in one of their own pamphlets show that in 1930 the state license fees for a three-ton truck with pneumatic tires ranged from as low as $18 in Missouri to as high as $787.50 in Arkansas, and in 30 states averaged only $110.51 while in the other 18 states they averaged $496, or 350 per cent higher. These and other statistics disseminated by the manufacturers and operators of buses and trucks themselves demonstrate that if in some parts of the country there is some relationship between what buses and trucks are paying for the use of the highways and what they should pay, then in other parts of the country there is not the remotest relationship between them.

Not only can there be no economically sound co-ordination of different means of transportation when some must pay all their costs out of their own earnings, while others are relieved through public taxation of the necessity of paying part of their costs; but there can be no economically sound co-ordination while some means of transportation are subjected to comprehensive and drastic regulation of their service and rate-making, while competing carriers are subjected to no such regulation. The railway executives in the "Declaration of Policy" that they adopted last November asked for "comparable regulation" of all means of transportation. They have been criticized for complaining that the railways are subjected to too much regulation, and for then asking for more regulation of other means of transportation. It has been said that they should ask for less regulation of themselves rather than for more regulation of others. I will go as far as any business man, or any operator of a carrier by highway or waterway, in contending that no means of transportation should be regulated as the railways now are; but I will not agree, until there has been a reduction of railway regulation, that there should be no increase in regulation of other means of transportation. What is needed in the interest of the public welfare is abolition of the wide difference between the way in which our national and state governments now treat the railways and other means of transportation.

Regulation or Free Competition?

We cannot abolish this difference in treatment without either greatly increasing regulation of the rates and service of other means of transportation or practically abolishing the present regulation of railway rates and service. If business men want competition rather than regulation in transportation let them show their preference by effectively advocating virtual abolition of railway regulation.

There has been much misunderstanding of the executives' program regarding other means of transportation because it has been misrepresented. All that it proposes regarding other means of transportation is, first, "a withdrawal of governmental competition both through direct operation of transportation facilities as well as indirectly through subsidies," and, second, "a fairly comparable system of regulation for competing transportation service by water and on the highways." This is the exact language of the program, and it can be construed as intended to strangle or destroy other means of transportation only upon the assumption that other means of transportation cannot survive without government subsidies or under a policy of regulation "comparable" to that applied to the railways.

Some persons say the railways are seeking protection from the competition of more efficient and economical means of transportation. Those who make such statements either do not understand the situation or are deliberately talking buncombe. That a means of transportation that is strictly regulated and is not subsidized loses traffic to a means of transportation that is not comparably regulated and is subsidized is certainly no evidence of the superior economy and efficiency of the unregulated and subsidized means of transportation. On the contrary, the fact that any means of transportation seeks subsidies and tries to avoid "comparable regulation" is very strong evidence that it does not believe it can withstand competition under government policies that treat all means of transportation alike.

I am far from believing that equal government treatment of all agencies of transportation will drive motor buses and trucks from the highways. I have long urged the railways to use motor buses and trucks extensively to replace much of their unprofitable local passenger and freight train service; to furnish storedoor collection and delivery of freight, and to extend their service to points not now reached by their lines. But rail and motor highway service should be mainly supplementary and not competitive, and where competition prevails it should not be deliberately made unequal and unfair by government policies that favor highway transportation and handicap railway transportation.

While we are considering the probable effects upon other means of transportation of the adoption of the executives' program, we should also consider the probable

effects of failure to adopt it upon the condition and service of the railways and upon the public welfare. Failure to adopt it, if railway regulation is not greatly reduced, will mean continued and increasing diversion of traffic from the railways to other means of transportation, because other means of transportation will be allowed to use competitive methods that the railways cannot use, and because they will be subsidized, while the railways are not. This can be prevented from injuring the railways only by letting the railways charge higher rates than otherwise would be necessary. It will involve taxation of the public artificially to stimulate the development of transportation by highway and waterway, and cause an over-production of means of transportation, and an increase in the total transportation costs borne by the public which would not occur if all classes of carriers had to charge rates high enough to enable them to pay all their costs out of their own earnings.

Business Men and Subsidies

The attitude of many business men regarding subsidies is utterly inconsistent. They are opposed to doles for the unemployed and to the government's policy under the Farm Relief act of using government money to aid farm co-operatives in competition with private enterprise and capital engaged in the marketing of farm products. I am as much opposed to these policies as any business man. There is, however, no difference whatever in the principle or effect of voting doles to the unemployed or the farmers, and of subsidizing competition by highway or waterway. Business men often contend that it is in the public interest that they shall be allowed to furnish, or as shippers to benefit by, what they call "cheap" transportation upon highways and waterways, when actually it is cheap to them only because the taxpayers pay a large part of the cost of it. If business men believe the nation can promote its prosperity by subsidizing transportation for their benefit, why should they indulge in solemn warnings against similar policies when advocated in the supposed interest of working men or farmers? If subsidies for some are such a good thing for the nation, in spite of their effect on taxes, then surely subsidies for all of us would be a much better thing; and we should speed our efforts to tax all of us rich, and especially our millions of farmers and workingmen who most need help from the public treasury. I fear, however, that the large business interests that are now the most zealously defending subsidies, and the most greedily seeking them, will find, if the policy of subsidization grows, that they will have to pay a surprisingly large share of the taxes the collection of which it makes necessary.

If we are to have a co-ordinated system of transportation, with each class of carriers performing the service which it can perform best and most economically, are the railways, or other companies, or both, to operate carriers by highway and waterway? Under the Panama canal act the railways are now prohibited from engaging in water transportation. Efforts are being made to secure legislation that will exclude them from engaging in highway transportation. We constantly hear the theory advanced that our various means of transportation should not compete with but supplement one another, but the obvious purpose of such legislation is to promote, and even compel, unrestricted competition between the different kinds of carriers. If we are to have a system of transportation co-ordinated in the most economically sound way practicable the railways must be given the same freedom as other companies to engage in all forms of water and highway transportation.

In no discussion of our national transportation problem can we safely disregard the question of regulation of rates. The Interstate Commerce Commission has been dominated by men who have believed that rates should be regulated in accordance with the commission's own judgment rather than in accordance with the constitutional and statutory provisions that the commission is charged with carrying out, and the commission has used such poor judgment by keeping the return earned by the railways far below a fair return in good years that, in spite of the most drastic retrenchments, especially in expenditures for maintenance of their properties, most of our railways have earned so little net operating income since 1929 that their credit and even solvency are being seriously threatened. In a recent decision the commission has given more heed than heretofore to decisions of the Supreme court regarding the way in which constitutional valuations must be made. It surely must have been made plain by developments during recent years that our entire government policy of dealing with our transportation problem needs over-hauling.

Transportation Half Slave and Half Free

Our transportation system is now half slave and half free. Railways are being subjected to competition on every hand, while their rates are being regulated by the commission in accordance with principles adopted when there was virtually no competition in transportation excepting between railways themselves. If the railways are to continue to be regulated as they are now they should be protected from the use by other means of transportation of competitive methods which the law prohibits the railways from using. On the other hand, if other means of transportation are to be left the freedom they now have the regulation applied to the railways should be greatly relaxed or even virtually abolished. I do not favor, nor do I know anyone else who favors, the withdrawal of all regulation; but if we are to continue to allow other agencies of transportation their present freedom from regulation, then we should give the same freedom to our principal means of transportation, in order that it may adopt such methods as it may find necessary to get sufficient traffic and earnings to enable it to perform the service that the public welfare requires that it shall perform.

* * *

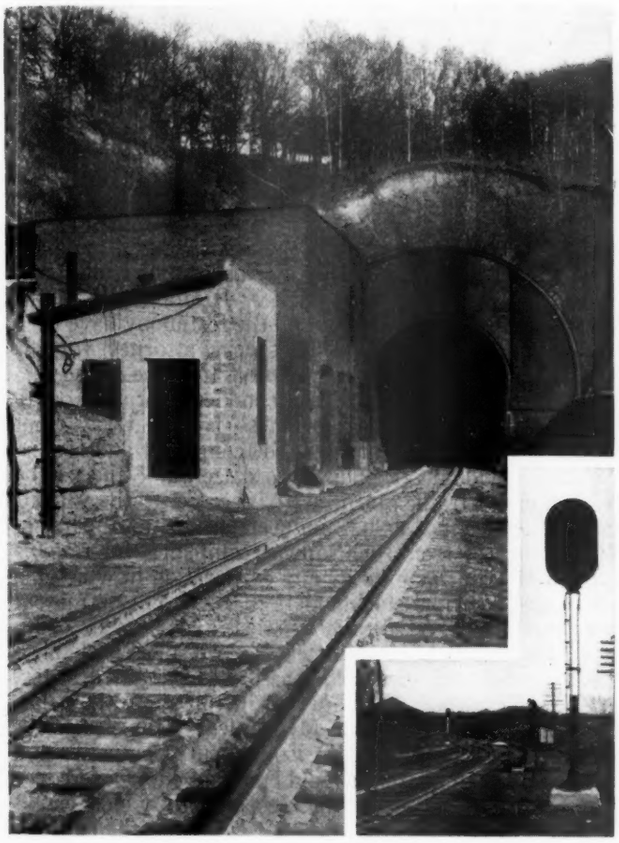
On the Delaware, Lackawanna & Western's Suburban Electrification in Northern New Jersey, Looking East between South Orange and Orange

Chicago Great Western

Saves $7,000 Annually

by Remote Control of Tunnel Interlockings

Increased safety and flexibility of operation, and high return on investment have amply warranted expenditure of $18,000



The Control Machine Is in the Fan House at the West Portal of the Tunnel

A STRIKING example of how operating expenses may be reduced by remote control systems is evidenced by the results being secured from an installation recently completed on the Chicago Great Western at Rice, Ill., and Winston. Here two tracks converge to a single track through a 2,460-ft. tunnel located between these two stations, which are 1.6 miles apart. Until recently mechanical interlocking plants were in service at Rice and at Winston, each plant including the end-of-double-track switch and signals at the respective location. A staff system further safeguarded the passage of trains through the tunnel.

Because of a one per cent grade eastbound through the tunnel, a fan, located at the west portal and controlled by an operator, blows the smoke out of the east portal ahead of eastbound trains. The traffic consists mostly of live stock and general merchandise, including fruits and meat. It requires 4 passenger and 20 freight trains daily.

In keeping with the Great Western's program of rehabilitation and modernization, a study was begun, in 1929, to determine the most feasible plan of modernizing the train-operating facilities at this "bottle-neck." The cost of widening or "day-lighting" the tunnel, to permit the construction of a second track, prohibited these courses of action, and it was doubtful if any probable increase in the volume of business would warrant such an expenditure. Because of the limited clearance in the tunnel, it was impossible even to gauntlet the track.

The Solution of the Problem

In the face of these difficulties, a plan was devised which made possible the indefinite postponement of second-tracking, and at the same time effected an appreciable saving in operating expenses. This plan was to treat each of the ends-of-double-track as a separate interlocking plant, but to control both plants from one intermediate point, by means of a system not unlike that employed in centralized traffic control installations. The field work was begun on November 15, 1930, and the new remote-control installation was placed in service on February 11 of this year.

The control machine, which is located in the fan house at the west portal of the tunnel, approximately midway between the two ends-of-double-track, is supervised by a telegraph operator who also starts and stops the fan and makes minor repairs to the fan equipment. One such operator is employed on each of three tricks while the six operators formerly employed at the mechanical plants have been released to other duties. By reason of this reduction alone, an annual saving of $7,000 has been effected, and further economies are expected in the operation and maintenance of the new system, as compared with the old installation.

Operation of the System

The control machine consists of a track-and-signal diagram, under which two switch levers, two signal levers, and various approach and section annunciators are mounted. To set up any desired route, the operator merely turns the button-type levers to correspond with the required position of the switches and signals, and watches the indicator lights, in order to satisfy himself that the switches and signals have responded properly.

Above each switch lever there are two switch-repeater lights: Green for the normal position, and amber for the reverse position. When a switch is in transit from, say, the normal to the reverse position, the corresponding detector track-section repeater light and the green switch-repeater light are extinguished and remain so until the switch has completed its movement, at which

time the detector light is again displayed, together with the amber light, to indicate that the switch is in the reverse position. Each signal lever has three indicator lights mounted above it, the two green lights on the outside repeating the caution or clear position of the corresponding signal, while the middle, red, light is displayed at all other times.

Color-Light Signals and Dual-Control Switch Machines

As this territory had been equipped with automatic block signals for years, the only new signals required were those at the ends of double track. These are the color-light type, the high signals being three-indication, and the dwarf and diverging-route signals two-indication.

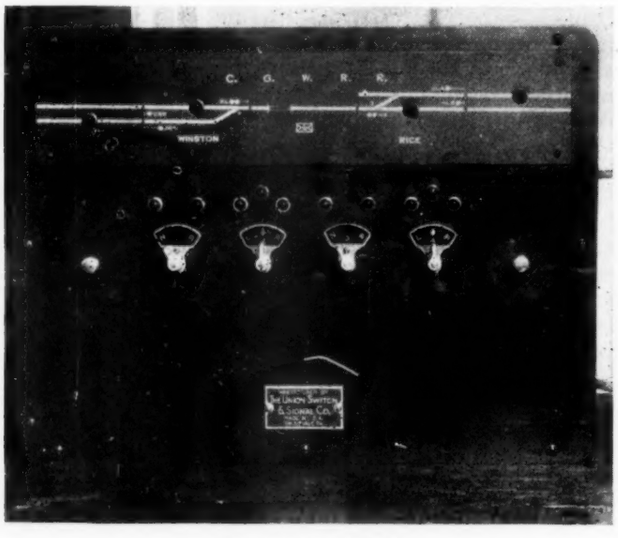
Two 16-sec., 24-volt dual-control switch movements are used, with point detectors. A unique feature of these machines is the thermal cutout and stick-relay circuit that opens the switch-operating circuit if an obstruction prevents the switch from completing its movement, and holds the circuit open until the operator acknowledges the fact by restoring the switch lever to its previous position and again manipulating the lever to the desired position. Thus, two advantages are secured: There is no wasteful consumption of the battery energy, and the operator is forced to be on the alert for any defect in the operation of the switches.

Extra precautions have been taken in reinforcing the switch layouts to eliminate creepage and other faults. Five tie-rods are used, and the ties between the heel and the point are securely strapped on the outside of the rails, and those on the far side of the heel are similarly strapped on the inside.

Economies Effected

No additions to the maintenance force have been necessitated by the installation of this remote-control system. The reduction in the number of operators permitted an annual pay-roll saving of $7,000, or 38.8 per cent of the expenditure of $18,000 made for the improvements. Further, there is the additional advantage of greater flexibility and safety of train operation afforded by the new system.

The installation was designed by the Union Switch & Signal Company, which company also supplied the signal equipment. The field work was handled by the railroad company's regular signal construction forces, under the direction of T. H. Kearton, general signal inspector.



The Control Machine

F. T. C. to Hear Argument in "Reciprocity" Cases

WASHINGTON, D. C.

ARGUMENTS will be heard by the Federal Trade Commission at Washington on June 11 and 12 on the commission's complaints against the Waugh Equipment Company and the Mechanical Manufacturing Company and officers of Swift & Co., and Armour & Co., charging unfair methods of competition in the sale of draft gear and other appliances to railways by promises to increase or threats to withdraw traffic of the two packing companies. Hearings have been held on these complaints in various cities, as reported from time to time in the *Railway Age,* and reports have been submitted by a trial examiner, although these have not been made public. Briefs based on the reports of the trial examiner and the testimony have been filed by Everett F. Haycraft, special attorney for the commission, urging the commission to issue cease and desist orders "requiring the respondent corporation to discontinue solicitation of business from railway companies by the means charged in the complaint and requiring the individual respondents to discontinue the use of the volume of traffic given by Swift & Co. to the various railway companies as an inducement or argument to obtain business from such railway companies for railway appliances manufactured by any corporation in which the officials or principal stockholders of Swift & Co., may at any time be interested or hold stock." A similar order was asked in the Waugh case, but in the Mechanical case the brief also says: "If, as it was intimated in testimony of some of the witnesses in this case, there has been a merger of the Mechanical Manufacturing Company and the Waugh Equipment Company, the order of the commission should be broad enough to cover any activity of the individual respondents which would employ or use the traffic of Swift & Co., in the solicitation of business for any company in which members of the Swift family are stockholders or are financially interested."

"It is respectfully submitted," Mr. Haycraft says after outlining the evidence in the Mechanical case, "that this course of conduct may well be described in the language of the street as a 'racket' and opposed to good morals, because characterized by oppression and therefore clearly an unfair method of competition which, if followed to the ultimate end, if not stopped, would certainly result in a dangerous tendency to unduly hinder competition and to create a monopoly. This is not the ordinary case of so-called 'reciprocity' where a large shipper located on a railroad line has a commodity which the railroad can use and, everything else being equal, including price and quality, the ralroad favors the concern located on its line. The Mechanical Manufacturing Company, the respondent corporation, had no substantial business to offer any railroad; it had no manufacturing plant located on any particular line, so there really was no element of reciprocity existing between it and any railroad company. The only possible reason the respondent corporation had in enlisting the services of the traffic department employees of Swift & Co., individual respondents herein, was because of the volume of traffic of Swift & Co., and its subsidiaries controlled and the weight such volume would have with the traffic departments of the railroads to whom respondent corporation sought to sell its prod-

(Continued on page 1082)

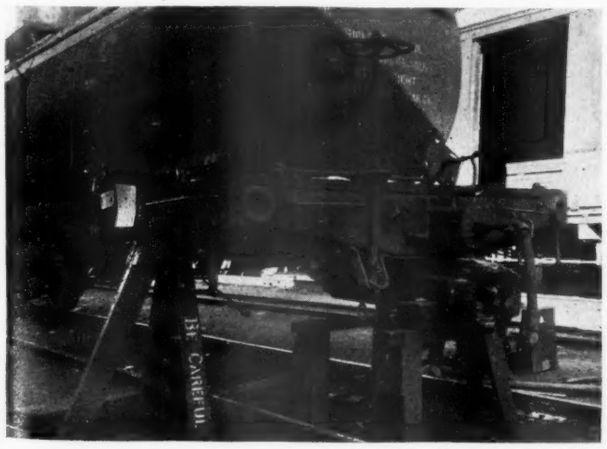
Milwaukee Profits by Improved Draft-Gear Conditions

Periodic inspection and maintenance program bears fruit in reduced unit freight-car repair costs and lessened claim payments

IT is generally recognized that both normal and abnormal shocks incidental to train operation must be absorbed, either singly or in combination, in draft gears, car structures, or car lading. The cheapest place to absorb these shocks is in the draft gear, and yet, owing to early inadequate design or to lack of proper upkeep, a large proportion of the freight car draft gears now in service fail to absorb these shocks fully, passing on, in varying degree, excessive shocks to cars and their contents. The resultant extensive damage and large expense, in the aggregate, constitute a particularly insidious loss because the damage is more or less cumulative in effect and seldom traceable directly to the real cause, namely, deficient draft gears.

Recognizing these facts, the Chicago, Milwaukee, St. Paul & Pacific has been working since September, 1927, on a definite program of periodic freight-car draft-gear inspection and maintenance, whereby this work is given equal consideration with air-brake cleaning, journal-box packing and reweighing, and all four are now placed on practically an annual basis. Whenever system light-repair cars appear on a repair track, the draft gears are inspected and dropped for repairs, if necessary. On system cars given heavy repairs, the draft gears are dropped without exception, thoroughly inspected and necessary repairs made to them and to the entire draft arrangement. In the case of either light- or heavy-repair cars receiving draft-gear attention, each car is stenciled and a record is sent to the office of the superintendent of the car department.

In accordance with this program, the Milwaukee is now inspecting system freight-car draft gears on approximately 81,000 cars a year, or 10,000 cars more than its ownership, in spite of a substantial reduction in car-department forces, and with most gratifying results in



Dropping a Tank-Car Draft Gear for Thorough Inspection and Repairs

Draft-Gear Inspection and Repair Department at Milwaukee Shops

a number of particulars, either directly or indirectly influenced by draft-gear conditions. For example, reference to one of the tables shows that the cost of freight-car repairs on the Milwaukee was reduced over one and one-third million dollars in 1930 under the 1929 figure, this striking accomplishment being accompanied by a decrease from 2.7 to 2.4 per cent in bad order cars and made possible to a considerable extent by improved draft-gear conditions. Looking at it in another way, the average cost of freight-car repairs per unit owned was reduced from $119.70, in 1929, when the effects of the draft gear maintenance program first began to be strongly felt, to $95.63, in 1930, or a saving of 20.5 per cent. In this same period, claim payments, on account of defective equipment, decreased from $53,422 to $37,502, or 29.8 per cent, also due to no small extent to the greater cushioning effect of well-maintained gears.

Further evidence of the great improvement in draft-gear conditions is afforded by the reduction in the percentage found defective on inspection, from 15.6 per cent in 1928, to 10 per cent in 1929, and only 6.8 per cent in 1930. As might be expected, this improvement was accompanied by a reduction in volume of draft-gears and parts purchased from $231,872, in 1929, to $140,311, in 1930, or 39.5 per cent. In cases where draft gears are defective, the couplers have to stand the first brunt of the shock and improved draft-gear conditions should also be reflected in coupler conditions. This was the case on the Milwaukee, which purchased couplers and parts in 1929 to the value of $451,051, this amount being reduced to $224,903, in 1930, or a saving of 61.5 per cent.

Several other items of car-department performance which have a bearing on draft-gear maintenance are shown in the table mentioned. The argument that anything like an adequate program of draft-gear inspection

and maintenance would be excessively costly and involve the employment of additional car-repair forces is apparently refuted by the experience on the Milwaukee, which employed fewer men in the car department each year from 1927 to 1930 in spite of the additional draft-gear work, and made a reduction of 16.4 per cent in total freight-car repair costs and a 25.5-per cent reduction in unit cost, as mentioned. That this saving was not made at the expense of deferred maintenance in freight equipment is evidenced by the substantial reduction in the average number of bad-order cars from 2,232 to 2,053, and the fact that there was practically no increase in the percentage of federal defects, following I. C. C. inspection. It is interesting to note that, as compared with 81,250 cars inspected for draft-gear condition in 1930, journal boxes were repacked on 61,713 cars and air brakes cleaned on 91,655 cars.

Draft-Gear Conditions Found Unsatisfactory

The freight-car draft-gear inspection and maintenance program was put in effect early in September, 1927, and the gears on 24,516 cars inspected in that year. The work was not taken seriously by the general run of car department supervisors at first, with the result that only 28,608 cars were inspected in 1928. In the latter part of that year, however, the decision was made to place draft-gear inspection and maintenance work on a par with air-brake cleaning, journal-box packing, etc., and a

Selected Items of Performance—Chicago, Milwaukee, St. Paul & Pacific Car Department

	1925	1926	1927	1928	1929	1930
Number of employees	8,422	7,117	6,405	5,692	5,385	4,776
Total car department pay-roll	$12,481,836	$10,677,137	$9,991,026	$8,854,090	$8,656,035	$7,215,368
No. of frt. schedule cars repaired	.....	.....	$2,212	$14,406	$15,600	$12,877
Av. cost frt. schedule cars repaired	.....	.....	$374.00	$176.00	$199.00	$181.00
Av. cost repairs frt. cars-per unit owned	$162.73	$131.83	$128.03	$122.38	$119.70	$95.63
Av. cost of repairs per frt.car mile	1.36c	1.11c	0.98c	0.85c	0.85c	0.82c
Total charges—frt.-car repairs	$11,673,218	$9,611,395	$8,920,588	$8,229,415	$8,287,535	$6,931,153
Operating ratio—frt.-car repairs	7.2	6.0	5.5	4.8	4.8	4.9
No. frt. cars owned—Dec. 31	74,452	70,707	66,288	68,905	70,902	72,642
No. frt. cars retired	3,593	3,755	5,419	2,035	2,373	2,137
No. frt. cars received—new	6,500	10	1,000	4,652	4,370	3,880
Accidents due to equip. failures, frt. and pass.	131	143	100	91	126	69
No. personal injuries (incl. minor injuries)	1,530	1,168	913	606	366	182
No. frt. cars damaged in trains and yards	.....	5,432	4,637	4,283	4,760	3,369
No. hot boxes, frt.	5,633	5,656	6,718	6,909	7,622	5,241
Miles per hot box, frt.	152,223	153,739	135,420	140,067	128,140	162,030
Hot boxes per 1,000,000 gross ton-miles	.180	.179	.201	.194	.211	.167
No. air brakes cleaned	.....	.....	87,032	91,667	96,460	91,655
No. journal boxes repacked	.....	.....	52,497	61,763	64,294	61,713
Per cent federal defects—I.C.C. inspection	1.5	1.7	1.3	1.3	1.2	1.3
Av. no. bad-order cars	4,537	4,249	4,370	2,274	2,232	2,053
Per cent bad-order cars to rev. cars on line	5.1	5.4	5.6	3.1	2.7	2.4
No. draft gears inspected, cars	.....	.....	24,516	28,608	81,364	81,250
Per cent draft-gears found defective	.....	.....	11.0	15.6	10.0	6.8
Value draft gears and parts purchased, pass. and frt.	$268,340	$115,693	$146,699	$180,264	$231,872	$140,311
Value couplers and parts purchased, pass. and frt.	$338,205	$236,869	$171,008	$108,215	$219,179	$84,592
Total, both items	$606,545	$352,562	$317,707	$288,479	$451,051	$224,903
Claims caused by defective equip.	$101,760	$54,887	$68,623	$65,009	$53,422	$37,502

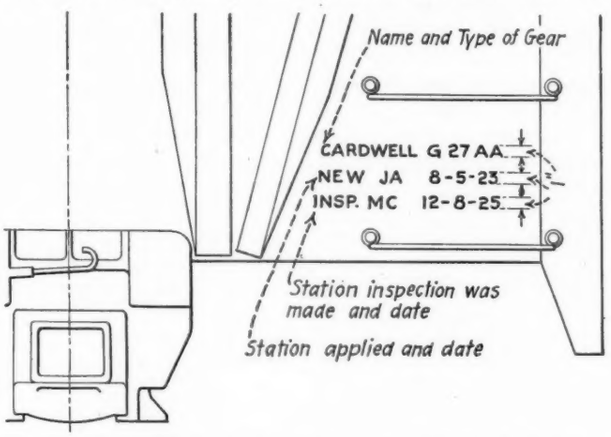
Per cent of Draft Gears Found Defective to Total Gears Inspected

Year	Month	Gear A	B	C	D	E	F	G	H	I	Cars inspected: This month	Cars inspected: Cumulative	Per cent of gears defective of all gears inspected
1928	Jan.	22.6	9.4	12.1	60.0	1.1	10.8	9.5	35.6	26.6	2,012	.....	12.4
	Feb.	33.2	13.4	11.0	66.6	0.6	6.6	...	43.0	16.3	2,150	4,162	14.9
	Mar.	25.2	10.8	19.2	25.0	1.5	17.8	...	40.7	10.7	2,266	6,428	14.7
	Apr.	22.6	10.8	14.8	16.6	1.4	8.8	...	34.1	10.3	2,368	8,796	12.6
	May	17.3	10.4	15.0	...	0.7	4.8	...	42.1	20.7	2,375	11,171	13.1
	June	11.5	9.2	21.7	...	1.7	4.9	11.1	36.5	25.9	2,294	13,465	12.8
	July	22.2	22.0	20.1	...	1.5	23.4	...	37.6	30.5	2,360	15,825	21.6
	Aug.	20.0	12.6	19.0	33.3	1.0	6.4	...	42.2	21.7	2,570	18,395	15.7
	Sept.	17.3	14.2	21.4	0.8	0.5	9.3	...	41.9	17.5	2,141	20,536	15.7
	Oct.	19.6	10.7	20.4	...	1.9	10.4	5.0	55.8	16.2	2,968	23,504	18.0
	Nov.	24.4	14.4	17.7	75.0	0.7	9.7	...	41.3	16.1	2,730	26,234	16.8
	Dec.	23.2	13.6	20.5	...	1.3	3.6	...	53.4	13.6	2,379	28,613	17.1
Yearly	Avg.	21.4	13.0	18.0	9.1	1.2	9.9	2.8	43.2	17.5	2,384	.....	15.6
1929	Jan.	18.5	11.4	10.1	...	0.6	4.3	9.4	28.9	11.1	4,605	.....	11.4
	Feb.	18.2	12.3	10.8	100.0	1.0	0.9	2.7	25.5	3.2	5,373	9,978	11.3
	Mar.	11.8	10.5	9.4	...	0.7	2.8	1.5	26.5	10.4	6,910	16,888	9.9
	Apr.	14.2	12.7	8.8	...	0.4	0.8	6.3	24.8	9.2	7,160	24,048	10.5
	May	10.6	12.8	8.1	...	0.1	1.9	1.3	25.3	9.9	7,608	31,656	10.8
	June	14.4	12.0	8.7	...	0.4	1.0	0.4	31.3	9.7	6,998	38,654	10.0
	July	6.8	12.5	8.6	...	0.9	0.8	0.6	29.1	8.6	7,969	46,623	9.7
	Aug.	12.5	12.5	8.9	...	0.6	1.5	0.9	29.1	10.7	8,242	54,865	10.1
	Sept.	11.2	12.7	8.7	...	0.8	1.2	1.0	28.6	10.5	7,328	62,193	10.1
	Oct.	14.3	12.8	9.0	...	0.8	1.5	2.0	28.4	9.5	7,865	70,058	10.3
	Nov.	6.6	8.5	7.1	100.0	0.6	1.9	2.1	24.1	12.3	5,622	75,680	7.7
	Dec.	6.0	11.6	8.5	...	0.4	1.5	4.1	19.5	1.9	5,684	81,364	8.8
Yearly	Avg.	12.3	12.0	8.9	19.0	0.7	1.6	4.1	27.0	8.9	6,780	.....	10.0
1930	Jan.	7.6	7.4	10.9	...	1.1	2.0	2.9	20.6	4.3	4,619	.....	7.9
	Feb.	6.0	9.5	8.9	50.0	0.5	1.2	0.7	20.8	14.2	5,745	10,364	8.3
	Mar.	4.2	9.2	13.3	...	1.7	1.9	6.4	13.6	0.3	7,408	17,772	8.7
	Apr.	7.9	10.3	11.0	...	1.8	4.0	0.7	15.4	34.1	7,421	25,193	9.6
	May	11.3	8.8	12.6	...	2.7	1.8	1.1	15.6	11.0	6,629	31,822	8.8
	June	4.2	6.2	7.7	...	1.2	0.5	0.8	17.6	8.6	6,686	38,508	5.8
	July	4.9	4.9	6.9	66.6	1.2	2.0	0.9	29.6	3.0	6,871	45,379	4.9
	Aug.	7.0	4.2	8.7	66.7	2.5	1.7	9.4	26.0	6.8	7,642	53,021	5.4
	Sept.	7.8	4.6	7.7	...	3.1	1.2	1.4	25.7	12.8	6,962	59,983	5.5
	Oct.	6.4	4.8	7.2	...	2.0	2.5	0.7	20.2	5.7	7,640	67,623	5.2
	Nov.	9.1	6.5	6.3	...	2.8	2.3	2.3	25.0	3.9	6,849	74,472	6.1
	Dec.	7.5	5.9	8.1	...	2.1	2.0	1.8	23.5	7.4	6,778	81,250	6.2
Yearly	Avg.	7.0	6.7	9.2	20.8	2.0	1.9	1.3	19.6	9.9	6,771	.....	6.8
1931	Jan.	8.7	6.5	5.3	...	0.2	0.3	1.5	18.1	6.1	5,869	.....	5.2
	Feb.	7.0	7.3	6.9	...	0.1	0.8	0.6	27.1	6.0	6,163	12,032	5.9
	Mar.	8.7	7.3	6.6	...	0.2	1.2	1.6	21.2	4.3	6,917	18,949	6.0

definite quota or number of cars was assigned for inspection of draft gears at each of the major car-repair points. This had the desired effect and, in 1929, the freight cars inspected for draft-gear condition totalled 81,364, an equivalent number being inspected and given attention in 1930.

The percentage of draft-gears found defective each year after starting the inspection and maintenance program is illuminating. Approximately 11 per cent of the draft gears were found defective when the plan was first inaugurated in 1927, and as the car-department forces became accustomed to the routine of the work and inspected gears more carefully, the number found defective increased to 15.6 per cent in 1928. In 1929, 10 per cent were defective, and, in 1930, only 6.8 per cent, the effects of previous careful inspection and maintenance work on draft gears being plainly evidenced.

Records of draft-gear defects, classified by types of gears, were kept as shown in one of the tables, and indicated a really deplorable condition in 1928, as well as the gradual but marked improvement in 1929 and 1930. For example, in the case of a well-known draft gear *H*, 43.2 per cent of the gears inspected in 1928 were found defective, the detection and correction of


Name and Type of Gear
CARDWELL G 27 AA
NEW JA 8-5-23
INSP. MC 12-8-25
Station inspection was made and date
Station applied and date

Locations of Draft-Gear Stenciling on a Chicago, Milwaukee, St. Paul & Pacific Freight Car

these defects resulting in an improved condition as regards this type of gear on Milwaukee equipment to such an extent that the percentage found defective dropped to 27.0 in 1929 and 19.6 in 1930. Even this improvement leaves much to be desired, however. With another well-known gear *A*, 21.4 per cent were found defective in 1928, this percentage dropping to 12.3 in 1929 and 7.0 in 1930. The number of gears *B* and *C* found defective were cut practically 50 per cent in each case between 1927 and 1930. Some of the gears in the list show very low percentage defective, which may be due to a number of reasons, such as new gears, few gears in service, or gears applied in car series not generally receiving heavy repairs.

How the Maintenance Program Is Carried Out

A total of 50 freight-car repair shops and yards on the Milwaukee are assigned for the handling of regular draft-gear inspection and maintenance work, which is not required at points having a force of less than five men, including the supervisor. As all system cars appear on these repair tracks, the draft gears are inspected, and, where excessive slack or broken parts are indicated, the gears are dropped and necessary repairs made to them as well as to all associated parts. Draft lugs are carefully examined and any loose rivets removed, the holes being reamed and new rivets applied. Care is taken to assure that the lugs are square and in the proper position with respect to the striking casting. Draft-gear carrier irons are fastened with rivets on all system steel center-sill cars. All inspectors at interchange points are instructed to see that system cars received from foreign lines have the draft-gear carrier irons applied with rivets instead of bolts; also, to observe that the proper draft gears are applied. Particular attention is given to see that the coupler-yoke key is held in place by a T-head pin.

In other words, on light- and medium-repair cars, the draft gears and attachments are given as careful an examination as possible from underneath without removing the gears unless defective conditions are indicated. On all system cars held for heavy or schedule repairs, the draft gears are dropped without exception so that the individual gears and attachments can be taken apart, if necessary, thoroughly inspected, worn parts renewed and any needed repairs made. At the smaller repair points, replacement gears and parts are carried in stock and no repair work is done on the draft gears, themselves. At larger shops, such as the Milwaukee freight shop, with a quota of 300 cars a month for draft-gear inspection, equipment and facilities are provided for thoroughly overhauling different types of draft gears and putting them in condition for replacement, either in freight cars at Milwaukee shops or at outside points to which they may be shipped.

Stenciling and Reporting

Whenever draft gears are removed or inspected, the cars are stenciled in one-inch, white letters, on each end of the car, giving the station initials and date of inspection. The name and type of gear, also the station and date of original application, are also shown by stencil letters which are retained as long as the original gear is maintained on the car. If it is necessary to change gears and a new gear is applied, this date of application, as well as the name and type of gear and the station symbol, are inserted. If a second-hand gear is applied, the new date and station symbol are omitted. Whenever gears have been inspected, they are reported on a monthly physical-change report. If draft gears have been inspected within nine months, the stenciling or reporting of the inspection is omitted unless the draft gears are defective or the cars receive heavy or schedule repairs.

It is not maintained that draft gear conditions on the Chicago, Milwaukee, St. Paul & Pacific are perfect, or that present inspection and maintenance methods are fully developed. Probably the greatest present need is for a drop hammer or testing machine at each major repair point to eliminate guesswork regarding the capacities of repaired gears. The systematic attention given to draft gears on Milwaukee equipment in the past three years, however, as a result of the initiative and persistence of the car-department supervision, has unquestionably been a large factor in the substantial savings achieved in car maintenance and damage claims.

THE CONSTRUCTION OF A STEEL MILL, to cost about $18,000,000, in American currency, and to have an annual output of about 150,000 tons, has been proposed by the Nanking (China) Ministry of Industry, according to newspaper dispatches from Shanghai. The new plant would be located at Pukow, on the north bank of the Yangtse river, directly opposite Nanking, and relatively close to extensive coal and iron ore deposits. Of the estimated total cost, $225,000 would be applied to the construction of a branch railway from the Tientsin-Pukow line to newly-discovered coal beds at Su Hsien.

Railroad Accidents Reach Lowest Point

Work of Safety Section recognized by the President and the Secretary of Commerce of the United States

RECOGNITION by President Hoover and Secretary of Commerce Lamont and a memorial to R. C. Richards, the father of safety, were the outstanding events at the eleventh annual meeting of the Safety Section of the American Railway Association at the Stevens Hotel, Chicago, on May 19, 20 and 21. The meeting, which was attended by 562 representatives of the railroads, was presided over by Chairman H. A. Rowe, claims attorney of the Delaware, Lackawanna & Western, to whom President Hoover and Secretary Lamont addressed their messages.

The telegram from President Hoover reads as follows:

"I will be obliged if you will express my cordial greetings to the Safety Section of the American Railway Association at its eleventh annual meeting and my warm congratulations upon the admirable results achieved by its seven-year campaign for a drastic reduction of casualties to employees on American railroads. This is a most inspiring record in the great campaign for safety in industry."

The letter from Secretary Lamont was in part as follows:

"The splendid record of achievement established by the railroads in the field of accident prevention cannot be other than a source of great satisfaction to all of those through whose efforts it was brought about. I am pleased to note that you are preparing an appropriate celebration of the accomplishment of a most substantial reduction in employees' fatalities and injuries, and that this is to be a feature of the eleventh annual meeting of the Safety Section of the American Railway Association. The railroads have been pioneers in the field of organized accident prevention. Through the extensive use of safety devices and through the individual and collective efforts of all of those included in the great army of railway men, the railroads have continued to make a great contribution to safety. While the extensive promotion of safety by the railroads has been of benefit to railroad employees, as shown by a 68 per cent reduction in fatalities and injuries during the past 7 years, the general public has benefited even more.

"The American Railway Association has been one of the organizations participating in the national conferences on street and highway safety ever since the latter was organized in 1924. Through the co-operation it has given, particularly to that part of the conference program dealing with the protection of railway grade crossings, it has rendered an important public service and has made a most valuable contribution to public safety."

Because 1931 is the twentieth anniversary of the inauguration of the safety movement by Mr. Richards, the section elected to place a bouquet of flowers at the base of the Ralph C. Richards memorial plaque in the passenger terminal of the Chicago & North Western at Chicago.

The program of the meeting at Chicago included various reports and addresses by several railroad officers. The officers elected by the section for the coming year are as follows: Chairman, C. T. Bailey, chief safety agent of the Oregon Short Line; first vice-chairman, C. E. Hill, general safety agent of the New York Central; and second vice-chairman, C. L. LaFountaine, general safety supervisor of the Great Northern.

What The Records Show

The Committee on Statistics, of which T. H. Carrow, superintendent of safety of the Pennsylvania, was chairman, presented a comprehensive report. On the basis of the number of casualties to passengers carried on railroad trains per 1,000,000 passenger miles, the report stated, the record for the year 1930 indicates a reduction of 50 per cent in fatal injuries and 35 per cent in non-fatal injuries, as compared with 1923, showing that the safety goal was reached so far as accidents to passengers from all causes are concerned. But with respect to casualties occurring in train accidents only, the report continued, that is, derailments, collisions and other accidents to passenger trains, the reduction is much greater, only 7 passengers having been killed in train accidents in 1930, compared with 42 in 1923, a reduction of 83 per cent, and only 790 having been injured in 1930, compared with 2,662 in 1923, a reduction of 70 per cent.

Highway Crossing Accidents

In commenting on highway grade crossing accidents, the report shows that notwithstanding an increase of 11,000,000 in population and 11,000,000 in the number of automobiles registered, the number of persons killed and injured, combined, at railroad highway crossings dropped from 8,582 in 1923 to 7,537 in 1930, a numerical reduction of 12 per cent. On the basis of the number of highway crossing casualties per 10,000 automobiles registered, the reduction is 50 per cent, showing that the safety goal was reached so far as the prevention of highway-crossing accidents is concerned.

Since the highway grade crossing accident situation is still a serious one, the committee believes that it should be met by state, county and township authorities arranging for more extensive checks to detect and correct careless or reckless driving of automobiles, which is the only remedy that can be applied to cut down accidents at railway crossings, as well as at all other places on the highways. The checking of employees and the enforcement of operating rules, which has been one of the major factors in insuring safety in train operation, was declared the major remedy that should be applied to bring about greater safety on the highways.

On the basis of casualties to trespassers per 100,000 population, the record for 1930 shows a reduction under 1923 of 21 per cent, which is considerably short of the goal. This, according to the report, is due largely to the fact that during periods of dull business when unemployment is pronounced, as it has been since 1929, a large percentage of the population moves about from city to city, resulting in illegal train riding and walking on railroad tracks. However, the report calls attention to the fact that very marked reductions in trespassing accidents were shown prior to 1923, and if 1930 is compared with the peak year of 1913, a numerical reduction of 50 per cent is indicated.

As a direct result of more intensive training and supervision and more efficient handling of safety work in all other respects, the report stated, the numerical reduction in casualties to employees is greater than for any other class of persons, the number killed in 1930 having dropped 52 per cent, and the number injured 78 per cent under 1923. On the basis of the number of casualties to employees per 1,000,000 man-hours worked, the re-

duction in 1930 under 1923 is 70 per cent, or twice the goal figure.

Non-Train Accidents Studied

The Committee on Non-Train Accidents, of which A. V. Rohweder, superintendent of safety and welfare of the Duluth, Missabe & Northern was chairman, submitted a report which included replies from a questionnaire sent to members asking for full details of specific accidents occurring under this specification and the remedies for them. Judging by the replies, it is the general consensus that by encouraging the purchase of safety shoes, accidents to the feet of employees have been decidedly reduced and the committee recommended that members give serious consideration to the safety shoe, or the shoe with the reinforced sole.

The Denver & Rio Grande Western in its reply stated that it had instituted surprise tests for motor cars and reduced its motor-car collisions for the year 1930 to 5, compared with 33 in 1929. The Wabash is enforcing a rule that when necessary to start a motor car from the ground, the men must push the car from behind and get on it from behind so that if they stumble and fall the car will not strike or run over them. Since the adoption and enforcement of this rule, injuries from this cause have entirely ceased. To enforce the use of goggles, the Wabash is sending men home for some 3 to 10 days whenever they are found doing goggle work without their goggles on and as a result has eliminated eye accidents.

The Minneapolis, St. Paul & Sault Ste. Marie replied that at one time carmen working on the interior of box cars, reaming holes or driving rivets, particularly on steel frame cars, worked on scaffolds built on top of horses resting on the floor of the car. "We had a number of cases where the scaffold would shift, causing the men to fall" the reply reads, "and to overcome this we developed a scaffold bracket which hooks over the top of the sheathing and have had no further trouble."

Train Accidents Decreased

The Committee on Train Accidents, of which E. R. Scoville, assistant superintendent of the safety department of the Baltimore & Ohio, is chairman, reported that during 1930 there were 12,313 major accidents, or those reported to the commission. If minor accidents, those not reportable, constituted 70 per cent of all train accidents, it is evident, according to the report, that there were approximately 41,000 accidents of all kinds on the railways of the United States. While no figures are available as to the cause of minor accidents, the reports of major accidents, according to the committee, show that 35 per cent are due to the negligence of employees, 38 per cent to defects or failure of equipment, 12 per cent to defects or improper maintenance of way or structures and 15 per cent to miscellaneous causes.

Of the train accidents reported to the Interstate Commerce Commission in 1930, 2,979 were due to collisions, 6,967 to derailments, 29 to locomotive boilers, 742 to other locomotive accidents and 1,596 to miscellaneous causes. The total of 12,313 major accidents in 1930 represents a decrease of 4,872, or 30 per cent as compared with the previous year. The 129 employees killed in train accidents represent a decrease of 19 per cent and the 633 employees injured, a decrease of 37 per cent as compared with 1929.

The committee recommended that in order to decrease train accidents a campaign similar to the general safety campaign be inaugurated on each railroad. Such campaigns should be on a competitive basis, one division competing against another for a suitable trophy to be awarded the winning division, either on the basis of locomotive miles run or man-hours worked by those engaged in train and yard service. A record of the train accidents covering a certain period, together with the locomotive miles or man-hours worked could be established and divisions grouped to make the basis for each division as nearly equitable as possible, in order that divisions with dense traffic might not compete with divisions having light traffic. After forming the groups, the committee recommended setting a goal for each group which should be not less than a 25 per cent reduction over its performance in a similar period. It also recommended that a trophy be awarded the division making the highest percentage reduction beyond the goal set for that group and that no award be made unless the goal is met.

Train Service Accidents

The Committee on Train Service Accidents, of which C. T. Bailey, chief safety agent of the Oregon Short Line, was chairman, showed that 583 persons were killed and 12,900 injured in train service accidents in 1930 as compared with 909 killed and 20,965 injured in 1929. Train service accidents, the report read, while constituting about 35 per cent of the total accidents occurring on American railways as a whole, develop a higher frequency of severity than any other of the three major classes of railway accidents. Out of the total fatal injuries occurring to railway employees on duty, over 67 per cent occur in train service accidents, while only 35 per cent of the total injuries to railway employees occur in accidents of this class.

The report gave three outstanding causes of train service accidents that should demand the careful attention of safety officers. These included operating locomotives, operating handbrakes and getting on or off cars or locomotives. While the seriousness of accidents occurring to employees from these causes is not out of proportion with other causes of train service accidents the frequency of injury to employees from these causes is excessive and every effort should be made by safety officers to develop a plan of education among employees subjected to the hazards of train service accidents to reduce such accidents to the lowest possible minimum.

The committee also recommended that safety officers, wherever possible, contact the transportation organizations of employees and develop a co-operative educational campaign among the members of these organizations that are directly subjected to exposure to the hazards of train service accidents.

G. B. Vilas, General Manager of the Chicago & North Western, and H. A. Rowe, Chairman of the Safety Section, Place Flowers at the Ralph C. Richards Memorial

The Committee on the Prevention of Highway Grade-Crossing Accidents, of which E. H. Beatty, superintendent of the department of safety and sanitation of the Southern, was chairman, reported that motorists are co-operating with the railroads in an effort to reduce the number of accidents at highway grade crossings to a greater extent than ever before. In 1930 there were 2,020 fatalities and 5,517 injuries resulting from 4,853 collisions at railway-highway crossings, which, in comparison with 1929, represents a reduction of 18.71 per cent in fatalities, 18.91 per cent in injuries and 18.71 per cent in collisions. This reduction, which represents the success of the railroads' campaign, was not experienced in the prevention work on streets and highways. During the year just closed there was an increase of six per cent in fatalities resulting from accidents involving the automobile on streets and highways.

The committee showed that in 1930 automobile registration increased 0.08 per cent, gasoline consumption increased 6 per cent and locomotive mileage decreased 10.81 per cent. These three factors, according to the report, enter into grade-crossing problems, the first two increasing the exposure equation and the third lessening it; yet notwithstanding these fluctuations, accidents at crossings were reduced 18.71 per cent.

The committee urged the membership to continue the strenuous campaign towards the elimination of crossing accidents and thus keep before the public the ever-requisite admonition to "cross crossings cautiously." Even though automobile registration may not increase to any great extent, the report continued, there are thousands of new drivers each year. This vast number, including thousands of youths driving for the first time, must be taught the rules of the road and be educated as to the care to be exercised at railroad crossings.

Addresses by Railway Officers

F. W. Sargent, president of the Chicago & North Western, recommended the safeguarding of the habits of employees while off duty so as to insure a state of mind conducive to safe working. He spoke in part as follows:

> I have heard it said some years back by those in places of high authority that they were not concerned with the habits, pursuits or practices of their employees, except while on duty. With this statement I must most earnestly disagree. The question of a man's efficiency, the question of his safe conduct not only with relation to himself but to others, depends to a large extent on how he cares for himself and upon the kind of life he leads while off duty as well as on duty. The man who indulges in reckless and brain-destroying habits during his hours of leisure, the man who fails to care for his own mental and physical welfare while off duty, constitutes a risk many times more dangerous than an unguarded machine. We are now in the midst of a very intense economic and industrial life with high-speed trains, delicate and high-speed machines; indeed almost every form and phase of daily activity has reached that state that requires physical soundness and a mind that is always mentally alert.
>
> The next field of activity of the Safety First movement is to inaugurate and carry through organized methods that will persuade men and women everywhere to take the same delicate care of their physical bodies as they do of the mechanical machines with which they work while on duty. To this end, many railroads now require yearly physical examinations of large classes of their employees. This requirement and practice ought to be universal and the rules of employment, especially in railroading where others entrust to railroad employees the lives of themselves and their dear ones, as well as their property of all kinds and classes, should require the same vigorous discipline with relation to the habits of life off duty as well as on duty. I realize that this may sound like a drastic and far reaching proposal in the line of discipline. I would not make it such. When off duty railroad employees should be permitted to live their own lives in the greatest of freedom, provided that in leading those lives they do not so impair their own mental and physical alertness as to jeopardize the safety and happiness and comfort of others when on duty.

Old and New Goals

Chairman Rowe commended the association on the work it had done in surpassing the goal calling for a 35 per cent reduction by 1930, and urged the members to drive for the new goal which calls for a 33 per cent reduction by 1933, with the same enthusiasm that marked the efforts extended during the past campaign. In emphasizing the magnitude of the 35 per cent reduction by 1930, he compared safety in 1923 with that in 1930. In 1923, he said, 1,866 employees were killed on duty upon Class I railroads, or a total of 1,940 killed on duty upon all railroads. In the same year, 148,146 employees were injured on duty on Class I railroad, and 151,960 were injured on duty upon all railroads. At the end of the seven-year period, considerable improvement had been made, since employee fatalities upon Class I railroads were reduced in that year to 898, and upon all railroads to 935, a definite reduction of 52 per cent in annual fatalities since 1923.

Mr. Rowe also viewed the matter from another angle to show the importance of the campaign. Had there been no 35 per cent reduction campaign during the past seven years, he said, and had casualties maintained the level of the 1923 record during the whole period, we would have had upon all railroads 13,580 employees killed an 1,063,720 injured, instead of the total of 9,606 killed and 607,204 injured. Thus the seven-year campaign has definitely saved, based on the 1923 record, exactly 3,974 lives and 456,516 injuries.

The financial aspect of the reduction of employee casualties is of substantial importance, particularly at this period, he continued. Eliminating all of the finer sentiments of life and regarding casualties strictly from an economic standpoint, a fatality to an employee represents throughout the whole of our country an ultimate average payment in excess of $4,000, for which there is no return. By the same token, whenever a reportable injury occurs, it represents an average disbursement in excess of $250. It is reiterated that the amounts quoted are but averages for 1930. Were it not for the reduction of casualties attributed to the 35 per cent campaign of the Safety Section, the claim departments of our nation's railroads would have been called upon during the past seven years to disburse an additional $130,000,000, or very nearly $20,000,000 per annum.

He also stated that during the year 1930 there were only 7 passengers killed and 790 injured in train accidents, which is at the rate of 1 passenger killed per 101,600,000 passengers carried and 1 passenger injured per 900,000 carried. Of the 7 passenger fatalities in train accidents, 4 resulted from a derailment due to obstructions placed on the track by unknown persons. The fifth fatality resulted from the derailment of a train by an automobile which had stalled on the track. The sixth resulted from a train being derailed owing to the expansion of rails. The seventh resulted from one train backing into another. In other words, only two fatalities involved the possibility of railroad negligence.

Train service accidents in which the passenger plays a part and frequently can control the situation, he said, were also substantially reduced, there being but 43 persons killed and 2,665 injured. This is practically a 50 per cent reduction in fatalities and a 25 per cent reduction in injuries in 1930 as compared with 1929.

Around safety, said R. H. Aishton, president of the American Railway Association in his address, has been woven the vast network of rail transportation in this country. It is the yardstick by which new mechanisms

new structures and new train schedules are measured. The railroads were never so alert in the matter of promoting safety as they are today and there was never more competition among the rail carriers than at the present time, when each is striving for the best safety record that can be attained. Mr. Aishton continued:

Because of the recognition of the importance of safety, millions of dollars for improvements, heavier rail, elimination of grade crossings, and the installation of safety devices of all kinds, designed to protect human life, have been expended. Last year alone, tentative reports indicate that the railroads spent approximately $300,000,000 for the improvement of safety and the protection of employees and the general public.

The steady improvement in safety that the railroads of the United States have been making annually for the past 10 years culminated in a remarkable safety record being established in 1930. For each passenger fatality in train accidents, the railroads carried nearly 102,000,000 passengers or a number equal to 83 per cent of the total population of the United States. Not only was a new low record established in the number of passenger fatalities in train accidents in 1930, but there also was a new low record established in the number of casualties among all employees of the railroads since the war.

A Vice-President's Views on Safety

C. S. Millard, vice-president and general manager of the Cleveland, Cincinnati, Chicago & St. Louis, gave an interesting talk on accident prevention as viewed by a vice-president and general manager. He spoke in part as follows:

The spirit that men put into their work in our business, in a peculiar sense, determines the success of our efforts to serve efficiently. That spirit is dependent upon a number of influences. Foremost of these reasons is the degree of security for himself and his loved ones that a man may feel that he possesses. We realize that perhaps fear of losing his employment may have a detrimental effect upon the efficiency of the worker, but how much more so has the fear of bodily harm, carrying with it the threat of suffering and the spectre of privation for his family? If railroading is only one-third as hazardous an occupation as it was 10 years ago, is that fact of itself not a major contribution to the morale of the army of railroad workers?

I often think of safety effort as being much like advertising. It has little or no momentum to carry on if the effort be stopped. Most efforts to influence the mind and actions of men are like that. Advertising men say that the best known articles of commerce on the market today, sold under the impetus of tremendous advertising campaigns, would shortly disappear from the market if the advertising were to cease.

No Fatality at Lackawanna Scranton Shops Since 1920

E. A. Koschinske, superintendent of shops of the Delaware, Lackawanna & Western, spoke on accident prevention in a large locomotive shop, describing the facilities employed at the Lackawanna shops at Scranton, Pa., and outlining the safety performance of the employees. At these shops the personnel of the safety committee, which is composed of members from each craft and a supervisor from each shop, are changed every six months so as better to sow the seed of safety throughout the plant, the retiring members being commended for their interest in the safety movement and invited to continue in their efforts to make the shop a safe place in which to work. As a result of the close co-operation between employees and supervisors, reportable accidents in 1930 represent a decrease of 90⅓ per cent as compared with 1925.

The Scranton shops, according to Mr. Koschinske, have not had a single fatality since 1920, nor have they had an accident where an employee has lost an arm, leg, foot or hand. Neither have they had an accident where an employee was totally or permanently disabled.

F. B. Lewis, general car foreman of the Armstrong shops of the Union Pacific, in speaking on shop and repair track safety, told how employees at these shops are encouraged to express themselves. Shop foremen are encouraged to surround themselves with a safety committee of their own selection, the members being appointed because of their outstanding interest in safety and the qualities and characteristics necessary to impress and direct others.

To guard against the effects of lost sleep or illness, the foreman arranges to scrutinize each man as he checks into his work or before the shift starts. If his suspicion is aroused, a moment's desultory conversation will enable him to determine the facts. He may send the man to the dispensary or he may correct "night owl" tendencies before they become habitual and get the man into trouble.

Ingenious devices, according to Mr. Lewis, have been constructed for handling shop jobs, largely as the result of ideas originating with the men themselves. Several efficient devices are in use for the handling of couplers and gears, and as a result virtually no lifting is required on the part of the operator. The installation of an annealing furnace in the shop created the particularly arduous and dangerous work of handling heavy truck sides and bolsters into the furnace for annealing, while the heat of the furnace with the door open presented a very discouraging aspect on a hot summer day. To guard against accidents, a traveling furnace-charging device actuated by an air cylinder was constructed, and as a result one man can handle the work of four without exertion. In addition, the operator places himself out of harm's way as he manipulates the device.

Men are not permitted to stand on the top step of 8 and 12-ft. ladders for any purpose, and as a reminder of the rule, all tops are kept painted yellow to guard against the possibility of forgetting for a moment that the top step must be used only as a leg brace or a shelf.

To guard against foot injuries due to nails passing through the sole of the shoe, periodical shoe inspections are made and employees are forbidden to continue at work in thin soled or badly worn shoes. As a result, the workmen are well shod and no nail punctures have occurred in a long time.

Safety Does Not Slow Up Freight House Operations

J. A. Barker, superintendent of terminals of the Chesapeake & Ohio, in an address on how to avoid injuries in the handling of freight, said that contrary to the thoughts of many that the campaign to reduce accidents at the Chicago freight station would interfere with operations, this station has shown a decrease in the cost per ton handled, an increase in the number of tons handled per man-hour, a decrease in freight claims because of the more careful handling of the freight through the house and better stowing and loading in the cars, and a decrease in the over and short reports, following organized efforts to reduce accidents. He said that in January, 1927, the Chesapeake & Ohio took over the handling of this tonnage with its own employees, the work at the Chicago terminal theretofore, from 1920 to 1927, being handled by another road. During the first four months accidents at the Chicago freight station were of such proportions that they threatened the record of the system. Because of this situation a local committee was organized to deal with it, and four months later the station had reduced the accidents 75 per cent, and following August, 1927, it operated 499 days without an accident of any kind. From January, 1931, to the close of April, there have been no accidents at all.

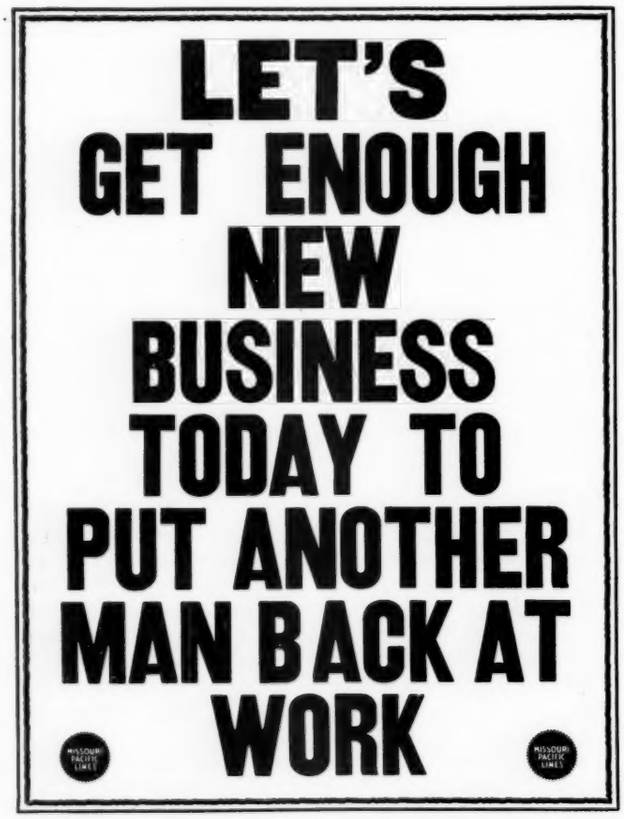
H. W. Wagner, chief engineer of the Atchison, Topeka & Santa Fe, in commenting upon ways and means of preventing accidents to employees in maintenance of way and structures departments, said that efforts on this railroad in the maintenance of way department between 1923 and 1930 have resulted in a reduction of 66⅔ per cent in the number of employees

killed and 50 per cent in the number of employees injured while on duty. The practices responsible for this reduction include safety meetings and improved machinery for doing work.

He said that personal injuries to employees in maintenance work are usually more numerous per man-hour worked than in other departments because a large portion of such employees are classed as common laborers; because a large labor turnover interferes with the training of the men; because such employees are often men who do not realize that accidents are preventable and who have not had it brought home to them that to work safely is more to the personal interest of themselves than anyone else; and because a larger proportion of the work is done outside and under all conditions of weather.

In addition to these addresses, O. A. Garber, chief mechanical officer of the Missouri Pacific, outlined the safety viewpoint of a general mechanical officer; Clark Hungerford, superintendent of the Southern, spoke on safety on the division and C. R. Moore, general superintendent of transportation of the Canadian National, addressed the meeting on some aspects of safety first. Lew R. Palmer, conservation engineer of the Equitable Life Assurance Society, commented upon the data included in the Green Book published by the National Safety Council, while R. P. Long, division engineer of the Wabash, outlined the rules governing motor-car accidents on that railroad. J. C. Dorsey, division engineer of the Delaware & Hudson, spoke on the handling, laying and cutting of rail. J. Clyde Mixon, chief clerk to the general superintendent of the Atlantic Coast Line, portrayed safety from a chief clerk's standpoint, emphasizing ways in which a chief clerk can be instrumental in promoting safety.

* * *



Poster Distributed by Missouri Pacific Lines Urging Employees to Obtain New Freight and Passenger Business

I. C. C. Declines to Take the Initiative

WASHINGTON, D. C.

THE Interstate Commerce Commission on May 26 announced that in response to "procedural questions" informally presented to it by Daniel Willard, president of the Baltimore & Ohio, in behalf of eastern railway executives, it had informed him "that the commission will not at this time institute a general investigation into the general railroad situation on its own motion." Mr. Willard had conferred with several members of the commission on Saturday, May 23, following the meeting of the eastern executives in New York on May 21, at which they discussed plans for seeking increases in rates. The announcement was issued after the commission had held a general conference on the subject on Tuesday, and, it is understood, after the commission had received some informal protests because it had allowed Mr. Willard to discuss the matter with it informally.

Formal Rate Proposals Required of Railways

The position taken by the commission is understood to mean that the railways will have to make formal proposals to the commission as to rates which they desire to have increased, without the advantage of the saving in time which would result from an investigation of what may be accomplished without the necessity of preparing tariffs or making formal proposals in some other way which might be wasted. It is also understood that the railways had hoped that the commission would aid them by assuming some responsibility for helping them to obtain more adequate revenues, particularly since it has intimated so many times that there are rates which ought to be raised but which are not included in railway proposals, except those for horizontal advances, because of "big-shipper terrorism."

Thus the commission has again taken refuge in its attitude that, in spite of Section 15a, it is the duty of the carriers to initiate rates, while it is its duty to decide whether they are reasonable and non-discriminatory without much reference to the relation of particular rates to a fair return. It has excused its failure to allow rates which would produce a fair return in the past by the general statement that it is not required to allow increases which it believes would tend to defeat their purpose by decreasing traffic or driving it to other forms of transportation, but in its adjustment of particular rates, and in pursuing its ideas of a well-balanced and non-discriminatory rate structure, it has ordered reductions in many rates on traffic not especially subject to truck competition while prescribing increases on short hauls and class-rate traffic which is particularly attractive to the trucks. The railroads have contended that when Congress included Section 15a in the law of 1920 it intended to adopt a new policy for the commission and that the law imposed an affirmative duty upon the commission. But in the brief filed on behalf of the commission in the western grain rate case, in which the roads are taking that position in court, the commission counsel said: "If the rates prescribed by the commission here under attack will not, with other existing rates, yield the carriers the 15a return, then it is the duty of the carriers to present to the commission proposals for rates on other commodities which will approximate the 15a design."

Seemingly the commission is applying the same policy to a question of an emergency which involves rates far below the 15a level. Since the depression began the railroads have generally refrained from proposing advances in rates but they have repeatedly urged the commission to "go easier" in the way of ordering reductions.

The western roads last fall submitted to the commission a series of suggestions for relief under the emergency conditions, saying that although their need for an increase in rates was greater than ever before they were withholding such an application "because the psychological effect might be bad." They then said that the situation of the carriers was in large part the direct result of regulation which has reduced their rates under orders which continue in effect, but their most important proposal, that the commission suspend the grain rate reduction, was denied.

There is a widely-held opinion that the railroads would welcome some pronouncement from the commission as to whether or not their campaign for a greater margin between revenues and drastically-curtailed operating expenses should take the form of seeking a wage reduction instead of a rate increase, but there has been no indication that Mr. Willard raised this point with the commission and it is understood that the railway executives at the Chicago meeting on May 8 made the definite decision that they should seek an increase in revenues before considering wage cuts.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended May 16 amounted to 747,732 cars, an increase of only 283 cars as compared with the previous week. This was a reduction of 181,027 cars as compared with the corresponding week of last year and of 298,862 cars as compared with 1929. For the first 20 weeks of this year the cumulative loading has been 25 per cent less than that for the corresponding period of 1929. Ore loading shows a particularly large decrease, 44,231 cars, as compared with last year, while miscellaneous loading shows a decrease of 65,256 cars, and all classes of commodities as well as all districts show reductions as compared with both previous years. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, May 16, 1931

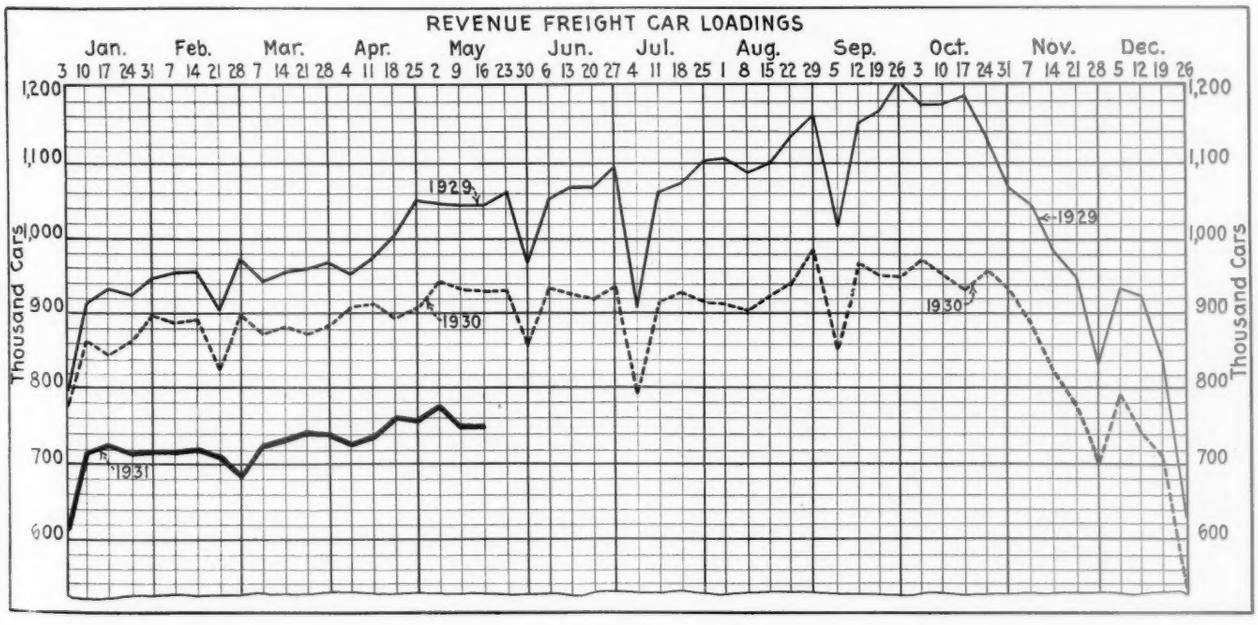
Districts	1931	1930	1929
Eastern	172,944	215,063	249,474
Allegheny	145,414	190,569	220,743
Pocahontas	44,616	51,327	58,667
Southern	115,095	128,272	142,647
Northwestern	91,363	144,456	161,476
Central Western	112,538	127,719	139,171
Southwestern	65,762	71,353	74,416
Total Western Districts	269,663	343,528	375,063
Total All Roads	747,732	928,759	1,046,594
Commodities			
Grain and Grain Products	36,491	37,484	37,552
Live Stock	21,388	23,069	25,849
Coal	111,388	134,584	155,936
Coke	6,549	9,265	12,593
Forest Products	33,874	52,789	69,523
Ore	11,875	56,106	72,209
Mdse. L.C.L.	224,246	248,135	262,257
Miscellaneous	302,071	367,327	410,675
May 16	747,732	928,759	1,046,594
May 9	747,449	932,346	1,048,960
May 2	775,291	942,674	1,051,935
April 25	759,272	906,879	1,051,885
April 18	760,002	892,706	1,005,880
Cumulative total, 20 weeks	14,522,230	17,691,923	19,290,159

The freight car surplus for the period ended May 8 averaged 601,330 cars, a decrease of 1,502 cars as compared with the week before. The total included 284,880 box cars, 248,453 coal cars, 28,797 stock cars and 16,420 refrigerator cars.

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended May 16 totalled 50,468 cars, an increase of 738 cars over the previous week but a decrease of 12,109 cars from the same week last year.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
May 16, 1931	50,468	28,269
May 9, 1931	49,730	29,367
May 2, 1931	53,101	31,374
May 17, 1930	62,577	34,130
Cumulative Totals for Canada		
May 16, 1931	955,225	571,577
May 17, 1930	1,147,213	729,145
May 18, 1929	1,270,317	868,467



F. T. C. to Hear Argument in "Reciprocity" Cases

(Continued from page 1072)

ucts. It was well recognized, of course, by officials of the respondent corporation that it would be futile for it to utilize the reciprocity argument in connection with the sale of its gears to the railroads, for the reason that no appreciable volume of traffic could be promised, but just as soon as the railway officials knew that Swift & Co., or any of its owners were interested, a different situation was created, for the traffic officials of the railroad could be induced and were induced to persuade the purchasing officials of the railroads to purchase respondent's gears in preference to others where it would have been impossible for respondent to secure a sale under ordinary circumstances."

Exception is taken by Mr. Haycraft to the statement of the trial examiner in the Mechanical case that "There is no conclusive showing of express threats to divert or of actual diversion of traffic of Swift & Co., or its subsidiaries from any railroad for the reason that it failed to buy Durable bumping posts, draft gears or centering devices, nor is there any such showing of promises in express terms to increase or actual increases of traffic from Swift & Co., or its subsidiaries to railroads for the reason that they bought Durable draft gears or centering devices. . ." In the light of the evidence cited by the trial examiner in support of these conclusions, Mr. Haycraft says the report should contain the following statement instead: "There is substantial evidence of threats to divert and the actual diversion of traffic of Swift & Co., or its subsidiaries from railroads . . . . and there is actual evidence of promises to increase and the actual increasing of traffic. . . ."

The brief states that "attempts were made by the individual respondents to coerce, if you please, the traffic representatives of the railroads to take steps to see to it that the Durable draft gears were purchased by the railroads which they represented, with the result that in the vast majority of cases orders were placed with the respondent corporation for draft gears which were unknown, untried, and often against the express recommendations of the mechanical officers of the railroads. It was no idle gesture for respondents O'Hara and Mayfield to say to the traffic departments of the railroads that Swift & Co., was interested in the draft gear business and that as a matter of reciprocity it was *expected* that their railroad friends should buy some draft gears."

It is also stated that to the extent that respondent was successful in obtaining business, its competitors were deprived of business, and several examples are cited to show that various companies lost business on several railroads. The commission is advised not to dismiss the case against the Mechanical company because it has assigned to the Waugh Equipment Company all of its rights as a licensee under a license agreement covering what is known as a "coupler centering device" which it sought to sell to railways at the same time it was selling draft gears and bumping posts, on the ground that "it does not appear that any assignment has been made of the license respondent holds to manufacture draft gears and bumping posts, and further that individual respondents have continued to hold their positions in the traffic department of Swift & Co., and have continued to hold stock in the respondent corporation so that there is nothing to prevent the respondent corporation from resuming its activities or that of respondent individuals from resuming their activities."

Looking Backward . . .

Fifty Years Ago

The Chicago, Milwaukee & St. Paul now has a larger mileage than is worked by any other company in the world directly by a single management. The Pennsylvania controls a considerably larger system, but it has three separate and distinct operating managements; the Wabash works about 2,575 miles, against the St. Paul's 3,775 miles on January 1; the Chicago & North Western is working about 2,800 miles; the Chicago, Burlington & Quincy, about 3,000 miles, and the Union Pacific, 3,125 miles.—*Railroad Gazette,* May 27, 1881.

The track of the Southern Pacific has reached El Paso, Tex., and regular trains are running to that point. El Paso is 88.2 miles from Deming, the junction with the Atchison, Topeka & Santa Fe, and 1,285.7 miles from San Francisco. This line of 1,286 miles from San Francisco to El Paso is now the longest continuous line in this country operated by one company. Work is not to stop at El Paso. The company will at once begin construction eastward, along the Rio Grande, meeting the Texas & Pacific at a point about 140 miles from El Paso, and the Galveston, Harrisburg & San Antonio about 350 miles from El Paso and 175 from San Antonio.—*Railroad Gazette,* May 27, 1881.

A group of superintendents met at New York on May 11 to prepare a constitution and bylaws for the recently organized Association of Railway Superintendents. An announcement addressed to the superintendents of American railroads stated that it is "remarkable that while mechanics, roadmasters, ticket agents, train officers and other subordinates have associated themselves and are receiving the benefits arising from the exchange of the fruits of knowledge and experience, the superintendents of the railroads, to whom so much is entrusted, have, so far, stood aloof, and made no effort to intermingle. An association for the interchange of views regarding railroad practice is eminently desirable."—*Railroad Gazette,* May 27, 1881.

Twenty-Five Years Ago

A. J. County, assistant secretary and superintendent of the Employees' Saving Fund of the Pennsylvania, has been appointed assistant to the third vice-president of that railroad. F. D. Reed, heretofore acting general storekeeper of the Chicago, Rock Island & Pacific at Moline, Ill., has been promoted to general storekeeper.—*Railway Age,* June 1, 1906.

As an exception to the generally accepted rule that a railway must grow in mileage in order to prosper, the Delaware, Lackawanna & Western presents a noteworthy example. That road consists of a main line mileage of 410 and branch line mileage of 547. There has been little increase of mileage for many years, but earnings and profits have increased remarkably. Gross earnings increased more than 50 per cent between 1896 and 1905, from $21,403,505 to $31,951,064. In the same period the net income increased over 150 per cent, from $6,730,978 to $17,061,967.—*Railway Age,* June 1, 1906.

Ten Years Ago

All records for heavy train loading were shattered on May 17 when the Virginian handled a train of 100 loaded 120-ton cars of coal aggregating 16,000 gross tons from Princeton, W. Va., eastward to Roanoke, Va.—*Railway Age,* May 27, 1921.

The present is a buyer's market. The seller, in an effort to obtain sufficient business to keep his organization together and pay fixed charges, has established prices based on a minimum margin over the out-of-pocket cost. Taking this situation as a cue, a few roads are anticipating the restoration of earnings by entering the market for these products when everything is in their favor.—*Railway Age,* May 27, 1921.

Communications and Books . . .

Do You Waste Water?

STAPLETON, S. I., N. Y.

TO THE EDITOR:

Your editorial entitled "Obsolescent Machinery" in the April 25 issue interested me very much. I can indorse much that Carl A. Johnson said about out-of-date machinery and I also agree with him that much of this trouble can be laid on the door steps of "higher officers of the companies."

Let me qualify my statement. Fifty years ago water exceeded consumption and annual water contracts were the rule with railroads. Since the advent of the water meter the situation has been reversed, because consumption was fast exceeding the supply, compelling conservation upon the part of the water purveyor.

In this land of plenty (and indifference) it requires something more than a sign "Don't waste water" posted upon railroad property. It requires up-to-date machinery, so to speak, to conserve the now costly supply. Has up-to-date machinery (fixtures) been installed to conserve it? Yes, some, just a little.

In the year 1840 a certain type of stop-and-waste cock was designed and patented in England when water was plentiful. Its purpose was to prevent freezing. Under present conditions that cock has proved to be a very costly type, hardly a month passing without hundreds of excess meter bills appearing for payment. Those bills are religiously sent down the line to the water service man or plumber for an explanation. He makes it; the answer is general; i. e., cock bursted, cock stuck, cock turned backwards, and there it ends. No one ever challenges that answer—Why did it burst? Why did it stick? Why was it turned backwards? What can be done to prevent a recurrence? Oh, never! That is not my business. And so it goes on and on ad infinitum.

In this connection I wish to say a word for the water service man or plumber. Too often has he made a requisition to prevent excess meter bills, only to be told that the new up-to-date fixture he requisitioned is "not standard"; I will have to send you what I have in stock.

Now, a word for the storekeeper who makes that answer. His hands are tied; he has no authority to change that "standard." When all of the old 1840 types are used up, his instruction are to replenish his stock with the same type and that goes on and on ad infinitum and it will until someone higher up takes enough interest to have the old order changed. Then and only then will the majority of excess meter bills disappear.

For twenty years our forces have tried to get the "higher ups" on every road to take an interest in the subject of water and its "excess meter bills," but they always leave it to George and what does George do but accept the proffered answers and OK the bills for payment. It is not his fault if the company does not buy the proper material. It would be interesting reading to have a report on the amount of money paid out annually by each road for excess metered water.

W. VOLKHARDT.

New Books

The Development of the Locomotive—2 volumes. By Dr. Ing. e.h. R. von Helmholtz and Ministerialrat A. D. W. Staby. Bound in stiff board covers, 8½ in. by 12½ in. Volume I contains 38 drawings. Volume II, 446 pages, illustrated. Published by Verlag von R. Oldenbourg, Munich and Berlin, Germany.

These two volumes which were compiled under the supervision of the Association of German Railroad Managements to which the railroad managements of Austria, Hungary, Holland and Switzerland belong, are written in German. They contain a comprehensive history of the development of locomotives in the above named countries, from 1835 to 1880. The two volumes contain a large number of illustrations showing the early locomotives built in England, and undertakes to show how the locomotive industry on the continent gradually broke away from the English influence and followed an independent development. The two volumes contain 706 illustrations of various designs and types of locomotives.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

The German Railways (Die Deutsche Reichsbahn)—What America Should Know about Them. "By word and picture this booklet attempts to show what the German Railways have to offer in the way of transportation of passengers and goods and what they accomplish through their modern organization. . . ." p. 6 includes "The Facilities of the Reichsbahn for Traffic and Maintenance of Service," by Max Leibrand; "The Handling of Freight Traffic in Germany," by Paul Sommerlatte: "Types of Freight Cars of the Reichsbahn," by Paul Speer; "The Safety Appliances and the Telegraph and Telephone Services of the Reichsbahn," by Wolfgang Stäckel; "Transshipment of Goods," by Johannes Tramnitz; "Passenger Service in Germany," by Alfred Baumgarten, and "The Reichsbahn as an Employer of Labor," by David Lochte. Not too technical for the general reader. 94 p. Pub. by N. V. Nederlandsch-Engelsche Uitgeversmaatschiij (Dutch-British Publishing Co., Ltd.), The Hague, Netherlands.

Motor Trucks in the Livestock Industry—A Study. Discusses trucking of livestock and its development, comparison of trucks and railroads, distances traveled by trucks, road development, sectional importance, and trucking of dairy products. 89 p. Pub. by Bureau of Market Analysis, Meredith Publishing Company, Des Moines, Iowa.

Wages in the United States 1914-1930. "With this volume the National Industrial Conference Board makes its eighteenth contribution to the knowledge of current wage conditions in the United States." p.v. 226. p. Pub. by National Industrial Conference Board, Inc., $3.00.

Periodical Articles

New Haven Would Beat Air Lines At Own Game With Faster Trains. Business Week, May 27, 1931, p. 11.

Railroad Comers, by Edward Hungerford. Answers the question "Who make up the 'younger generation' of railroad executives?" Forbes, May 15, 1931, p. 15-17, 28.

What of the Railroad Future? by Dudley Hovey. "The railroads are passing through an emergency, but there is much loose thinking as to the position and future of railroads in our scheme of transportation.....A new phase of railroad development seems dawning wherein various transportation agencies will be co-ordinated for more effective and well rounded services....." Barron's, May 25, 1931, p. 3, 8.

Who Needs Traffic Management? by Richard Waterman. "The point I want to make is that every business, large or small, should have competent traffic management." p. 96. Nation's Business, May, 1931, p. 51-52, 94-96.

Who Runs the Railroads? by Pierce H. Fulton. "Personalities who guide the destinies of leading roads and represent the interests of thousands of stockholders....." Magazine of Wall Street, May 16, 1931, p. 91-93, 120.

Operating Statistics of Large Steam Railways—Selected Items for the Month of March, 1931

Region, road and year	Average miles of road operated	Locomotive-miles: Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (thousands)	Car-miles: Per cent loaded	Ton-miles (thousands): Gross. Excluding locomotives and tenders	Ton-miles (thousands): Net. Revenue and non-revenue	Average number of locomotives on line: Serviceable	Unserviceable	Per cent unserviceable	Stored
New England Region:												
Boston & Albany	1931	407	148,570	154,094	11,731	4,027	65.9	208,236	70,509	88	42	32.6	32
	1930	407	186,235	198,569	20,715	4,650	65.5	241,951	83,689	100	23	18.4	37
Boston & Maine	1931	2,066	323,528	367,942	36,521	11,017	67.7	586,407	208,611	240	66	21.7	62
	1930	2,066	368,628	423,651	52,189	12,517	70.7	641,296	236,608	253	58	18.6	71
N. Y., New H. & Hart.	1931	2,094	391,959	458,558	22,459	13,671	64.9	736,432	268,297	263	83	23.9	31
	1930	2,107	439,310	511,535	28,620	15,119	63.6	819,737	298,951	283	64	18.5	48
Great Lakes Region:												
Delaware & Hudson	1931	876	261,070	347,213	37,574	8,258	59.8	513,778	224,765	248	27	9.8	122
	1930	875	298,247	397,052	46,125	9,636	64.1	577,619	263,146	240	29	10.8	102
Del., Lack. & Western	1931	998	409,197	458,211	47,472	13,318	66.4	744,435	287,359	219	60	21.5	33
	1930	998	461,204	507,478	56,872	16,069	67.9	891,853	359,181	240	56	19.0	43
Erie (inc. Chi. & Erie)	1931	2,316	740,677	776,183	67,079	32,627	61.2	1,970,249	745,526	383	98	20.4	109
	1930	2,316	821,624	879,225	57,832	35,440	61.8	2,112,343	817,789	397	98	19.8	93
Grand Trunk Western	1931	1,019	242,282	245,802	3,114	6,943	62.3	400,887	140,629	74	39	34.6	39
	1930	1,020	299,131	302,195	2,801	8,998	67.6	481,552	177,333	90	33	27.0	29
Lehigh Valley	1931	1,343	434,300	461,129	44,523	13,463	62.9	818,938	333,098	224	112	33.2	25
	1930	1,343	497,830	539,193	60,304	15,387	64.0	898,550	363,761	253	90	26.2	25
Michigan Central	1931	1,369	435,676	437,952	10,262	14,520	60.3	840,607	277,006	156	59	27.3	47
	1930	1,865	514,631	515,781	14,208	17,599	60.3	987,195	328,754	185	41	18.1	38
New York Central	1931	6,477	1,744,412	1,889,304	119,174	65,050	59.6	4,023,472	1,599,118	878	484	35.5	271
	1930	6,468	1,952,998	2,148,024	158,454	74,792	61.3	4,501,866	1,854,074	1,029	319	23.7	316
New York, Chi. & St. L.	1931	1,660	521,720	536,652	8,621	17,283	60.0	1,018,724	361,143	172	73	29.7	45
	1930	1,665	655,568	663,843	7,420	20,920	61.7	1,209,320	448,707	201	54	21.2	30
Pere Marquette	1931	2,201	337,672	353,118	3,154	8,615	60.7	520,682	194,309	156	28	15.0	50
	1930	2,177	414,208	419,385	3,727	10,479	62.9	613,701	242,098	173	28	13.9	27
Pitts. & Lake Erie	1931	235	86,498	88,466	1,274	3,282	58.4	262,821	144,392	58	17	22.7	29
	1930	*232	119,127	122,953	1,355	4,236	60.6	333,996	185,626	49	16	24.8	14
Wabash	1931	2,497	733,328	764,544	13,909	21,237	61.2	1,250,125	418,607	287	121	29.6	52
	1930	2,497	811,826	858,939	13,718	24,758	62.9	1,420,020	491,334	307	70	18.5	38
Central Eastern Region:												
Baltimore & Ohio	1931	5,536	1,417,749	1,669,652	187,525	45,137	59.9	2,998,258	1,289,122	928	243	20.8	270
	1930	5,541	1,723,966	1,998,298	238,713	52,992	61.5	3,482,557	1,560,164	988	219	18.1	170
Big Four Lines	1931	2,721	632,629	662,016	21,008	20,042	60.5	1,292,346	576,522	287	141	33.0	66
	1930	2,712	744,142	770,597	19,710	22,818	61.4	1,438,840	636,935	323	138	29.9	28
Central of New Jersey	1931	692	192,564	209,549	33,082	5,784	57.1	397,623	177,565	149	39	20.8	49
	1930	693	251,082	271,406	42,349	7,329	58.1	486,303	219,110	167	31	15.7	19
Chicago & Eastern Ill.	1931	939	190,128	190,410	2,430	4,804	61.6	306,022	129,283	89	63	41.5	35
	1930	946	219,914	221,234	2,626	5,925	65.0	359,337	157,223	98	47	32.3	33
Elgin, Joliet & Eastern	1931	447	114,616	118,894	5,111	2,932	60.2	228,578	115,555	77	15	16.0	17
	1930	453	131,262	139,346	7,336	3,630	62.8	273,483	140,314	77	14	15.6	4
Long Island	1931	400	43,833	47,150	12,257	593	52.8	43,036	16,039	40	8	16.9	...
	1930	400	46,530	51,215	12,753	621	54.1	42,693	16,031	45	11	19.4	2
Pennsylvania System	1931	10,668	3,285,694	3,663,616	371,728	111,980	60.8	7,413,290	3,179,900	2,224	335	13.1	767
	1930	10,690	3,684,716	4,234,686	421,015	129,948	62.7	8,486,550	3,770,327	2,368	365	13.4	613
Reading	1931	1,446	538,134	582,822	52,821	14,628	57.2	1,068,036	499,352	320	70	18.0	63
	1930	1,454	619,649	672,562	56,677	16,898	59.1	1,192,151	574,198	327	61	15.6	49
Pocahontas Region:												
Chesapeake & Ohio	1931	3,116	968,457	1,024,805	36,754	34,526	55.5	2,866,796	1,517,394	622	68	9.8	248
	1930	3,086	1,073,990	1,130,173	44,870	36,865	57.3	2,922,139	1,563,150	578	99	14.6	129
Norfolk & Western	1931	2,226	650,566	712,026	38,353	23,221	59.2	1,854,786	947,007	450	41	8.3	173
	1930	2,230	768,648	878,153	51,377	28,202	58.9	2,289,217	1,191,382	444	47	9.6	116
Southern Region:												
Atlantic Coast Line	1931	5,162	753,740	763,115	11,062	18,182	57.4	1,039,358	347,450	393	82	17.2	78
	1930	5,155	730,942	733,191	10,792	19,057	58.6	1,080,336	371,963	402	52	11.5	87
Central of Georgia	1931	1,900	245,416	246,456	3,950	5,884	69.4	321,296	128,346	112	37	25.2	1
	1930	1,900	267,301	268,975	4,756	6,827	68.9	371,037	150,311	124	28	18.7	5
Ill. Cent. (inc. Y. & M. V.)	1931	6,670	1,528,886	1,547,482	26,829	38,556	60.0	2,563,228	1,013,456	735	156	17.5	58
	1930	6,694	1,794,311	1,807,183	30,991	48,537	61.9	3,131,373	1,263,878	712	126	15.1	22
Louisville & Nashville	1931	5,268	1,236,551	1,304,144	34,783	25,709	57.8	1,791,442	815,888	515	177	25.6	125
	1930	5,247	1,451,896	1,522,370	43,323	30,627	60.2	2,056,114	954,575	559	131	19.0	66
Seaboard Air Line	1931	4,466	578,750	591,846	7,109	14,293	59.8	865,504	303,319	262	34	11.5	25
	1930	4,491	623,411	647,448	8,256	15,985	62.3	933,887	345,693	268	25	8.5	...
Southern	1931	6,675	1,286,804	1,304,637	25,003	30,693	64.3	1,725,235	669,133	779	191	19.7	204
	1930	6,676	1,402,489	1,431,760	29,043	34,767	63.5	1,975,224	766,345	797	154	16.2	143
Northwestern Region:												
Chi. & North Western	1931	8,459	1,080,233	1,139,174	29,675	28,640	63.9	1,640,513	616,151	717	151	17.4	202
	1930	8,459	1,239,312	1,305,190	25,169	32,936	65.3	1,856,015	742,418	760	95	11.1	137
Chi. Gt. Western	1931	1,459	240,123	240,149	13,409	8,056	60.7	478,251	174,314	114	17	13.2	14
	1930	1,459	279,631	320,407	19,917	8,347	64.2	467,881	176,217	112	17	13.2	10
Chi., Milw., St. P. & Pac.	1931	11,301	1,335,578	1,416,628	69,572	37,445	61.8	2,286,395	912,942	785	151	16.1	343
	1930	11,244	1,512,238	1,620,070	83,173	43,822	63.9	2,569,063	1,032,358	809	149	15.5	273
Chi., St. P., Minn. & Om.	1931	1,714	236,179	255,119	10,998	5,272	66.4	295,285	119,164	150	26	14.7	60
	1930	1,724	292,751	316,796	13,647	6,217	68.5	344,042	143,105	147	30	16.8	40
Great Northern	1931	8,342	629,523	636,702	21,861	20,439	66.5	1,210,976	523,426	480	137	22.2	132
	1930	8,338	749,410	764,790	40,091	25,032	69.7	1,404,015	625,602	464	147	24.1	63
Minn., St. P. & S. St. M.	1931	4,356	361,956	370,388	5,274	9,379	67.9	511,590	209,047	168	72	30.0	44
	1930	4,388	414,155	428,113	4,851	11,481	69.6	607,942	258,433	178	49	21.4	28
Northern Pacific	1931	6,458	578,970	612,771	42,007	19,065	72.0	1,047,938	445,510	401	128	24.1	86
	1930	6,472	704,475	750,104	51,985	23,608	72.5	1,271,196	556,285	406	119	22.7	60
Oreg.-Wash. R. R. & Nav.	1931	2,218	159,415	166,580	10,832	4,349	68.2	254,874	104,986	116	11	9.1	50
	1930	2,246	182,735	191,920	13,612	5,306	70.5	296,537	124,689	116	23	16.3	32
Central Western Region:												
Atch., Top. & S. Fe (incl. P. & S. F.)	1931	11,376	1,506,303	1,621,490	70,181	45,443	64.2	2,702,325	936,905	750	189	20.2	265
	1930	11,200	1,622,476	1,743,831	81,348	51,366	64.0	3,022,899	1,096,766	778	158	16.2	226
Chicago & Alton	1931	1,000	233,115	242,398	1,768	5,343	56.1	350,861	124,507	117	25	17.4	34
	1930	1,000	259,415	271,842	3,044	6,332	59.5	397,114	146,299	126	20	13.3	28
Chi., Burl. & Quincy	1931	9,270	1,180,064	1,222,611	38,545	36,597	62.2	2,147,399	948,007	615	121	16.4	87
	1930	9,280	1,318,842	1,391,548	61,198	42,295	64.7	2,398,828	1,065,063	654	144	18.1	64
Chi. Rock I. & Pacific	1931	7,593	1,153,381	1,198,907	7,563	29,270	61.4	1,753,046	647,738	482	154	24.2	114
	1930	7,593	1,402,484	1,455,516	13,444	35,741	60.4	2,150,554	793,995	527	123	18.9	64
Denver & R. G. Wn.	1931	2,549	208,297	226,687	21,512	5,761	64.0	350,437	143,313	221	24	9.8	88
	1930	2,562	221,249	260,286	44,034	6,363	66.2	384,251	171,346	203	53	20.6	37
Los Angeles & Salt Lake	1931	1,241	158,721	178,209	22,135	5,177	68.2	291,653	107,844	98	14	12.2	29
	1930	1,220	183,243	204,648	26,865	5,805	65.4	337,301	124,394	112	6	5.3	22
Oregon Short Line	1931	2,532	254,475	263,123	17,085	7,979	64.7	488,157	190,328	158	8	4.9	68
	1930	2,539	271,185	282,968	20,813	8,320	67.4	493,907	204,127	176	14	7.6	76
So. Pacific—Pacific Lines	1931	8,961	1,163,023	1,244,166	132,921	37,457	63.5	2,271,288	771,945	664	254	27.7	239
	1930	8,960	1,439,554	1,569,059	207,815	47,034	62.3	2,902,318	1,033,375	703	206	22.7	172
Union Pacific	1931	3,765	845,872	866,825	33,947	33,644	66.3	1,911,667	691,891	413	49	10.5	185
	1930	3,765	824,774	843,699	35,856	33,854	73.3	1,771,867	692,981	407	61	13.1	144
Southwestern Region:												
Gulf, Colo. & S. Fe	1931	1,965	193,337	200,011	4,038	5,281	64.5	321,676	133,121	104	14	11.9	40
	1930	1,932	236,638	248,747	6,130	8,291	64.5	521,320	231,483	105	19	15.0	16
Mo.-Kans.-Texas Lines	1931	3,176	338,826	343,142	4,724	9,859	59.6	590,559	219,151	168	60	26.2	84
	1930	3,176	391,197	398,214	6,693	12,373	57.1	763,780	282,910	185	53	22.2	87
Missouri Pacific	1931	7,423	1,263,038	1,300,818	36,924	36,700	60.4	2,330,331	868,407	540	97	15.2	203
	1930	7,424	1,411,442	1,445,903	36,814	42,061	62.3	2,562,978	1,010,529	531	86	13.9	147
St. Louis-San Francisco	1931	5,175	647,389	653,882	8,837	15,922	60.1	965,328	363,082	390	84	17.7	93
	1930	5,169	749,403	763,830	9,468	19,512	60.4	1,161,804	443,178	370	76	17.0	44
St. Louis Southwestern Lines	1931	1,902	243,201	251,349	3,730	7,015	62.1	411,272	139,331	102	28	21.8	24
	1930	1,805	351,712	355,147	5,179	9,173	61.2	556,261	200,477	102	24	18.9	6
Texas & New Orleans	1931	4,686	562,176	564,167	1,212	13,551	62.8	826,236	300,537	254	93	26.8	63
	1930	4,701	725,864	727,775	2,750	16,681	61.6	1,022,730	377,124	279	50	15.1	67
Texas & Pacific	1931	1,951	371,229	371,229	2,951	10,255	56.1	669,861	222,027	181	56	23.7	38
	1930	1,951	460,996	460,996	3,734	12,490	55.6	834,869	292,133	197	32	13.9	44

Compiled by Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Compared with March, 1930, for Roads with Annual Operating Revenues Above $25,000,000

Region, road and year	Average number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:													
Boston & Albany.....1931	3,458	3,084	6,542	9.5	21,255	1,402	475	17.5	348	30.1	5,587	164	41.1
1930	4,278	3,789	8,067	4.8	19,561	1,299	449	18.0	335	28.4	6,631	167	57.5
Boston & Maine.....1931	11,402	7,867	19,269	8.8	23,511	1,813	645	18.9	349	27.3	3,258	116	42.7
1930	10,887	9,457	20,344	4.1	22,758	1,740	642	18.9	375	28.1	3,694	113	49.3
N. Y., New H. & Hart..1931	19,020	12,582	31,602	15.2	25,142	1,879	685	19.6	274	21.5	4,132	113	45.0
1930	16,569	13,046	29,615	11.2	24,626	1,866	681	19.8	326	25.9	4,577	113	50.2
Great Lakes Region:													
Delaware & Hudson.....1931	10,741	3,631	14,372	3.8	25,939	1,968	861	27.2	504	31.0	8,280	132	45.2
1930	11,114	5,009	16,123	3.4	25,184	1,937	882	27.3	526	30.1	9,701	140	53.1
Del., Lack. & Western..1931	19,529	4,794	24,323	6.2	25,612	1,819	702	21.6	381	26.6	9,287	149	58.6
1930	19,446	6,543	25,989	4.5	25,615	1,934	779	22.4	446	29.4	11,608	145	61.5
Erie (inc. Chi. & Erie)..1931	35,866	12,998	48,864	3.9	39,993	2,660	1,007	22.8	492	35.2	10,385	107	56.6
1930	35,447	16,354	51,801	3.4	35,829	2,571	995	23.1	509	35.7	11,391	115	61.1
Grand Trunk Western...1931	4,126	9,228	13,354	9.5	26,507	1,655	580	20.3	340	26.9	4,451	106	70.6
1930	3,729	10,331	14,060	7.0	24,862	1,610	593	19.7	407	30.5	5,610	111	79.6
Lehigh Valley 1931	22,030	5,676	27,706	8.4	29,341	1,886	767	24.7	388	24.9	8,002	148	48.5
1930	20,050	7,374	27,424	6.2	27,658	1,805	731	23.6	428	28.3	8,738	154	56.4
Michigan Central.....1931	25,910	17,094	43,004	5.3	36,878	1,932	637	19.1	208	18.0	4,781	114	67.2
1930	24,678	13,055	37,733	4.2	34,013	1,918	639	18.7	281	25.0	5,685	118	75.6
New York Central.....1931	80,477	60,002	140,479	9.4	34,321	2,306	917	24.6	367	25.0	7,964	104	47.6
1930	77,346	59,102	136,448	4.2	32,420	2,305	949	24.8	438	28.8	9,247	110	55.2
New York, Chi. & St. L..1931	15,538	8,342	23,880	6.6	30,507	1,953	692	20.9	488	38.9	7,017	105	72.1
1930	14,940	9,533	24,473	7.7	28,060	1,845	684	21.4	591	44.7	8,695	107	84.7
Pere Marquette.....1931	12,164	4,888	17,052	3.7	24,452	1,542	575	22.6	368	26.9	2,848	101	62.6
1930	9,863	6,941	16,804	4.1	22,081	1,482	584	23.1	465	32.0	3,587	108	68.0
Pitts. & Lake Erie.....1931	20,902	4,055	24,957	7.1	38,509	3,038	1,669	44.0	187	7.3	19,819	104	38.6
1930	16,693	5,672	22,365	4.1	36,942	2,804	1,558	43.8	268	10.1	25,809	114	62.1
Wabash 1931	20,063	8,960	29,023	6.7	32,434	1,705	571	19.7	465	38.6	5,409	119	61.5
1930	17,870	11,980	29,850	2.3	29,119	1,749	605	19.8	531	42.5	6,348	123	74.8
Central Eastern Region:													
Baltimore & Ohio.....1931	80,418	19,429	99,847	5.6	26,664	2,115	909	28.6	416	24.3	7,512	149	51.2
1930	77,107	24,605	101,712	5.4	24,512	2,020	905	29.4	495	27.3	9,083	153	59.8
Big Four Lines.....1931	24,966	22,177	47,143	5.1	31,971	2,043	911	28.8	394	22.7	6,836	116	51.4
1930	26,752	19,869	46,621	4.4	28,509	1,934	856	27.9	441	25.7	7,577	129	55.4
Central of New Jersey...1931	18,082	8,014	26,096	14.7	25,889	2,065	922	30.7	219	12.5	8,275	148	41.6
1930	18,001	9,975	27,976	5.5	24,354	1,937	873	29.9	253	14.5	10,203	153	51.1
Chicago & Eastern Ill....1931	5,815	2,596	8,411	8.1	27,173	1,610	680	26.9	496	29.9	4,442	127	40.9
1930	12,912	3,582	16,494	41.8	25,443	1,634	715	26.5	307	17.8	5,360	135	49.9
Elgin, Joliet & Eastern..1931	9,108	4,807	13,915	6.0	16,558	1,994	1,008	39.4	268	11.3	8,338	124	43.5
1930	9,701	7,342	17,043	4.6	15,161	2,083	1,069	38.7	266	10.9	9,995	133	52.0
Long Island 1931	749	5,126	5,875	1.0	7,045	982	366	27.0	88	6.2	1,293	359	40.0
1930	725	4,578	5,303	1.3	6,627	918	345	25.8	98	7.0	1,292	314	37.0
Pennsylvania System.....1931	239,944	54,490	294,434	5.5	31,042	2,256	968	28.4	348	20.2	9,615	130	50.9
1930	226,383	67,407	293,790	3.3	29,187	2,303	1,023	29.0	414	22.7	11,378	131	54.9
Reading 1931	36,853	9,789	46,642	3.4	23,735	1,985	928	34.1	345	17.7	11,137	147	52.6
1930	36,853	9,789	46,642	3.4	23,735	1,924	927	34.0	418	20.8	12,739	145	60.8
Pocahontas Region:													
Chesapeake & Ohio.....1931	48,684	7,667	56,351	3.3	39,901	2,960	1,567	43.9	869	35.6	15,707	91	49.7
1930	41,002	10,458	51,460	2.1	36,318	2,721	1,455	42.4	980	40.3	16,342	94	56.0
Norfolk & Western.....1931	40,057	5,762	45,819	1.0	40,880	2,851	1,456	40.8	667	27.6	1,456	126	49.3
1930	36,445	7,689	44,134	0.9	41,489	2,978	1,550	42.2	871	35.0	1,550	129	61.0
Southern Region:													
Atlantic Coast Line.....1931	27,446	9,555	37,001	5.4	22,254	1,379	461	19.1	303	27.6	2,171	113	52.6
1930	24,487	10,025	34,512	4.9	21,470	1,478	509	19.5	348	30.4	2,328	111	52.8
Central of Georgia.....1931	6,871	2,905	9,776	11.3	20,298	1,309	523	21.8	424	28.0	2,179	136	54.2
1930	5,762	4,698	10,460	5.7	19,918	1,388	562	22.0	464	30.6	2,552	129	58.1
Ill. Cent. (inc. Y. & M. V.)1931	51,272	15,181	66,453	7.9	25,427	1,677	663	26.3	492	31.2	4,901	143	57.0
1930	45,547	18,859	64,406	4.5	24,999	1,745	704	26.0	633	39.3	6,090	139	70.7
Louisville & Nashville....1931	51,700	8,747	60,447	11.6	20,962	1,449	660	31.7	435	23.8	4,996	151	62.4
1930	48,809	11,802	60,611	7.7	19,474	1,416	657	31.2	508	27.1	5,868	156	73.2
Seaboard Air Line.....1931	16,605	7,246	23,851	4.5	21,030	1,495	524	21.2	410	32.3	2,191	131	65.2
1930	15,733	9,243	24,976	3.5	19,460	1,558	555	21.6	466	33.1	2,483	132	72.2
Southern 1931	54,295	12,304	66,599	13.0	20,138	1,341	520	21.8	324	23.1	3,234	158	44.2
1930	52,080	15,856	67,936	11.6	20,088	1,408	546	22.0	364	26.0	3,703	156	49.6
Northwestern Region:													
Chi. & North Western...1931	53,750	20,833	74,583	9.0	21,112	1,519	570	21.5	266	19.4	2,350	138	43.4
1930	50,423	24,267	74,690	5.5	19,927	1,498	599	22.5	321	21.8	2,831	140	50.2
Chi. Gt. Western.....1931	4,735	3,497	8,232	6.7	32,067	1,992	726	21.6	683	52.0	3,854	128	62.2
1930	4,604	3,610	8,214	5.4	24,509	1,673	630	21.1	692	51.0	3,896	142	84.9
Chi., Milw., St. P. & Pac.1931	60,593	13,842	74,435	2.6	24,366	1,712	684	24.4	396	26.2	2,606	127	51.3
1930	54,810	17,349	72,159	2.9	23,024	1,699	683	23.6	462	30.7	2,962	136	57.3
Chi., St. P., Minn. & Om..1931	2,913	7,877	10,790	7.1	17,627	1,250	505	22.6	356	23.7	2,243	125	48.7
1930	2,614	9,234	11,848	7.4	16,387	1,175	489	23.0	390	24.7	2,678	131	60.5
Great Northern 1931	43,355	7,700	51,055	5.3	25,899	1,924	831	25.6	331	19.4	2,024	135	34.5
1930	42,232	8,858	51,090	5.6	24,101	1,873	835	25.0	395	22.7	2,420	142	42.5
Minn., St. P. & S. St. M. 1931	20,213	3,263	23,476	3.7	19,912	1,413	578	22.3	287	19.0	1,548	108	50.5
1930	19,450	4,312	23,762	3.4	18,894	1,468	624	22.5	351	22.4	1,900	113	61.5
Northern Pacific.....1931	42,162	4,779	46,941	9.8	26,077	1,801	769	23.4	306	18.2	2,225	147	40.0
1930	40,489	6,112	46,601	8.3	24,598	1,804	790	23.6	385	22.5	2,772	157	49.2
Ore.-Wash. R.R. & Nav..1931	7,736	2,165	9,901	6.5	23,780	1,599	659	24.1	342	20.8	1,527	162	45.0
1930	7,920	3,066	10,986	4.5	22,902	1,623	682	23.5	366	22.1	1,791	167	47.6
Central Western Region:													
Atch., Top. & S. Fe (incl. P. & S. F.).....1931	69,517	11,952	81,469	8.4	31,234	1,794	622	20.6	371	28.0	2,657	114	58.1
1930	67,535	16,044	83,579	6.4	29,960	1,863	676	21.4	423	31.0	3,159	113	63.5
Chicago & Alton.....1931	10,729	3,367	14,096	6.8	25,526	1,505	534	23.3	285	21.8	4,017	133	55.5
1930	10,382	4,082	14,464	5.5	24,510	1,531	564	23.1	326	23.7	4,721	129	60.9
Chi., Burl. & Quincy....1931	45,821	13,825	59,646	6.2	27,037	1,820	803	25.9	513	31.8	3,299	123	55.3
1930	44,475	17,334	61,809	4.6	25,854	1,819	808	25.2	556	34.1	3,702	130	58.7
Chi., Rock I. & Pacific..1931	37,834	12,587	50,421	8.5	23,535	1,520	562	22.1	414	30.5	2,752	145	61.2
1930	32,330	16,974	49,304	6.0	22,299	1,533	566	22.2	519	38.7	3,373	143	72.8
Denver & R. G. Wn.....1931	13,515	3,105	16,620	2.4	23,157	1,682	688	24.9	278	17.5	1,813	172	32.6
1930	12,959	3,876	16,835	2.9	21,214	1,737	774	26.9	328	18.4	2,158	170	38.5
Los Angeles & Salt Lake..1931	4,797	1,225	6,022	2.9	28,100	1,838	679	20.8	578	40.7	2,804	140	57.7
1930	6,031	1,316	7,347	2.4	26,164	1,841	679	21.4	546	39.0	3,289	141	62.9
Oregon Short Line.....1931	8,352	4,110	12,462	4.1	29,457	1,918	748	23.9	493	31.9	2,425	108	54.3
1930	8,342	5,106	13,448	3.7	26,951	1,821	753	24.5	490	29.6	2,594	113	51.5
So. Pacific—Pacific Lines.1931	42,256	22,197	64,453	6.0	28,716	1,953	664	20.6	386	29.5	2,779	118	48.4
1930	40,001	24,749	64,750	5.9	27,884	2,016	718	22.0	515	37.6	3,720	119	63.0
Union Pacific.....1931	25,889	7,621	33,510	11.1	43,894	2,260	818	20.6	666	48.8	5,928	111	63.0
1930	22,350	8,579	30,929	8.2	39,551	2,148	840	20.5	723	48.1	5,937	113	60.7
Southwestern Region:													
Gulf, Colo. & S. Fe.....1931	11,541	2,229	13,770	2.8	27,136	1,664	689	25.2	312	19.2	2,185	109	55.6
1930	11,421	3,877	15,298	3.8	31,137	2,203	978	27.9	488	27.1	3,866	98	66.5
Mo.-Kans.-Texas Lines...1931	14,746	3,794	18,540	5.5	26,891	1,743	647	22.2	381	28.8	2,226	100	49.3
1930	17,007	6,017	23,024	6.3	28,729	1,952	723	22.9	396	30.4	2,873	97	54.8
Missouri Pacific.....1931	33,673	16,028	49,701	10.6	29,115	1,845	688	23.7	564	39.5	3,774	124	67.7
1930	29,908	19,585	49,493	5.0	26,676	1,816	716	24.0	659	44.0	4,391	125	77.5
St. Louis-San Francisco..1931	27,279	6,587	33,866	3.1	22,525	1,491	561	22.8	346	25.2	2,263	143	45.1
1930	23,085	8,539	31,624	3.3	20,439	1,550	591	22.7	452	33.0	2,765	153	55.9
St. Louis Southwestern Lines 1931	7,178	3,271	10,449	8.1	25,984	1,691	573	19.9	430	34.9	2,364	106	63.3
1930	6,491	4,173	10,664	5.5	24,156	1,582	570	21.9	606	45.4	3,583	107	92.5
Texas & New Orleans....1931	12,295	12,787	25,082	5.5	22,670	1,470	535	22.2	387	27.8	2,069	97	52.6
1930	11,563	13,830	25,393	4.1	21,274	1,409	520	22.6	479	34.4	2,588	97	71.6
Texas & Pacific.....1931	6,573	5,335	11,908	8.4	27,570	1,804	598	21.7	601	49.5	3,672	91	50.9
1930	5,856	6,265	12,121	5.8	26,642	1,811	634	23.4	777	59.8	4,830	91	65.4

Odds and Ends . . .

Edison Joins Railway Veterans

Thomas A. Edison, who in the Sixties was a telegraph operator on the Grand Trunk at Stratford, Ont., has accepted an honorary membership in the Canadian National Railway's Veterans' Association.

Japanese Trackmen Dress Fashionably

Trackmen on the Japanese railways, without being conscious of the fact, dress in the fashion dictated for beach wear in the United States. The so-called "coolie coats" which are worn only by society women at Palm Beach, are part of the regular uniform of section laborers in Japan.

Prize Poultry This Mechanical Man's Hobby

About a peck of prize ribbons, mostly blue, a bunch of medals and a silver cup have been won at poultry shows by John B. Rogers, clerk in the office of the superintendent of motive power of the St. Louis-San Francisco, and Mrs. Rogers, whose hobby for the last 12 years has been raising thoroughbred poultry. Their flock of white Wyandottes has won more first prizes at the Missouri State Fair than any others ever exhibited. A year ago they shipped a pen of five birds to Spain.

Loot

What do box car thieves steal from railroads? Almost anything under the sun. But, more specifically, Joe A. Palmer, special agent of the Missouri-Kansas-Texas at Oklahoma City, recently recovered at Arkansas City, Ark., about $2,000 worth of merchandise belonging to various railroads. The Katy's share of the loot, which was stolen by 14 thieves, all of whom pleaded guilty and were sentenced, included shotgun shells, 16 automobile tires, an automobile robe, and a pair of high top boots.

Down for All Time

Unlike the countless gold spikes driven to celebrate the completion of railway lines, the memento used in the recent ceremonies marking the start of construction of the Cincinnati Union passenger station will not soon find its way into a museum. After Col. Henry M. Waite, chief engineer of the Union Terminal, adjusted a gold tip to the first steel pile used in the station's construction, H. A. Worcester, president of the Terminal, released the hammer in the first of a succession of blows that drove pile and tip some 50 ft. into the ground.

Ferry Service at Henderson, Ky.

The start of construction by the Louisville & Nashville of a new bridge over the Ohio river at Henderson, Ky., is reminiscent of the days when freight cars were ferried across at that point, and no railroad or highway bridge was in existence there. C. M. Kinney, retired supervisor of water service on the Evansville division of the L. & N., has in his possession a telegram dated at Henderson, January 16, 1884, and sent by L. Hege, division superintendent, to J. M. Culp, general freight agent at Louisville, which stated: "No transfer of freight can be made today. Mercury sixteen. Wind strong. River full of ice."

Not a Description of a Saxophone in Action

Westerly breezes have wafted a sound across the Hudson, and the New York Times pricks its august ears, investigates, and announces that the aeolian strains come from the electrified Lackawanna. * * * The Times says many nice things about the electrified Lackawanna, * * * but the "population of 1,250,000" served by the railroad starts from its salubrious hills and glens in amazement at the poetic praise heaped upon the anguished squawk which has replaced the steam-whistles of the trains. It may sound like a "pleasantly toned pneuphonic horn" at Times Square, but from Hoboken to Dover the cacaphonous, strident, blatant whistle of the otherwise delightful Lackawanna sounds like a dinosaur in mortal combat with the Iowa hog-calling champion.—Newark (N. J.) Evening News, through the courtesy of James J. Speer, Rutherford, N. J.

A Young Officer

The newly appointed treasurer of the Nashville, Chattanooga & St. Louis, David S. Huggins, is probably one of the youngest major officers of a Class I railway in North America. Huggins celebrated his thirty-second birthday anniversary last February 19.

Undoubtedly Dead

In the year 1901 an action was brought against the old London & North Western Railway of Great Britain (now part of the London, Midland & Scottish), for damages, because of the mishandling and almost complete destruction of a Peruvian mummy on its journey from South America. The lawyers, it appears, could do nothing in the case until a coroner's inquest had been held over this body dead for some thousands of years. The inquest took place, and the verdict was as follows: "That the woman was found dead at the railway goods station on April 15, and did die at some date unknown in some foreign country, probably South America. The body has been dried and buried in some foreign manner, and the jurors are satisfied that it does not show any recent crime in this country, and that the deceased was unknown and about 25 years of age."—The Irish Times.

The Joys of Being an Express Messenger

An 18-ft. python gave William Stewart, express messenger on the westbound Erie Limited, the scare of his life on the night of May 10 when it escaped from a box in the express car and proceeded to stretch after a long confinement. Not being versed in the art of snake charming Stewart hurriedly opened a door, closed it after him and hung on to the outside of the car. That happened some time after the train passed Barberton, Ohio. Stewart clung to a grab iron in a driving rain until the train made its next regular stop at Marion, Ohio, an hour or so later. The express consigned to Marion was gingerly removed without disturbing the python, and when the train reached Chicago several attendants of the Lincoln Park zoo manipulated a noose on a long pole until they maneuvered the python back into its box. The snake was one of four en route from Singapore to Brownsville, Tex.

Adding Insult to Injury

Truck operators, not content with hauling freight in competition with the railroads, have recently made use of railway facilities in peculiar ways. The Southern Pacific Bulletin reports that on the Lafayette division of the Southern Pacific in Louisiana when trucks arrived at an under crossing with a load of cotton too high to pass under, the drivers unloaded the top tiers on the track, rolled the bales to the other side of the structure and reloaded them on their trucks. That is, they followed this practice until discovered. On the Chicago, Milwaukee St. Paul & Pacific, in Iowa and Minnesota, according to the Milwaukee Magazine, truck operators competing with the railroad used its stock yards and scales, to sort out and weigh livestock, to such an extent that it has become necessary to padlock these facilities at a number of stations. The Louisville & Nashville Magazine relates that W. D. McLaughlin, gateman for that railroad at Mobile, Ala., recently noted three colored gentlemen lounging in the Mobile waiting room preparatory to boarding a motor coach for Montgomery. Interviewing them, Mr. McLaughlin so successfully convinced them of their impoliteness that they purchased $19.32 worth of rail transportation for Montgomery.

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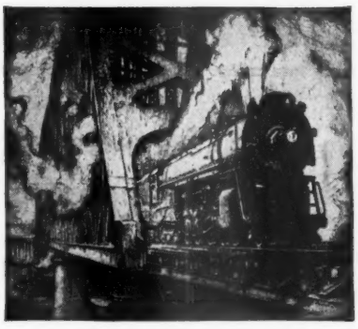

Super-Power is EARNING its Way

■ WITH falling traffic, roads which have recently purchased Lima Super-Power locomotives have a distinct advantage.

■ These roads are effecting substantial economies by concentrating as much of their road work as possible on the newer, more efficient power. Old, high-operating-cost locomotives are "white-leaded".

■ At this time, when economy is most important, Super-Power is earning its way and justifying the foresight of railroads having a progressive motive power policy.

■ Now is the time to be working on new power, because you can't afford to return the old locomotives to service when business improves.

LIMA LOCOMOTIVE WORKS

INCORPORATED

LIMA OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

NEWS

Rail and Barge Rate Divisions Prescribed

Interstate Commerce Commission decision establishes joint rate bases

The railroads and the Inland Waterways Corporation having failed to reach agreements as to the divisions of the joint barge and rail rates which the Interstate Commerce Commission required in its order in Ex Parte No. 96, the commission on May 25 made public a decision prescribing bases for determining the divisions of joint rates, after considering the proposals submitted by both parties.

The barge line had proposed that the divisions be based on a first-class rate pro-rate, while the rail carriers had asked the same divisions as those of the corresponding all-rail rates, but the commission said that a comparatively small percentage of the barge line's traffic moves on first-class rates and that the railroads are in disagreement with respect to divisions of most of the inter-territorial all-rail rates and are using temporary bases for the time being. If and when the all-rail divisions between the carriers reach a stage of greater equilibrium than now exists, the commission said, it may be that they can be used to advantage and with propriety.

As to rates for application within southern territory the commission found that reasonable and equitable divisions will be determined on a rate pro-rate basis, i. e. by dividing the joint rates in proportion to the first-class all-rail rate under the standard southern scale for the distance over the rail route between the interior point of origin or destination and the port of interchange with the barge line and the first-class port-to-port rate of the barge line in effect between the barge line ports via which the shipment moves.

As to rates on cotton linters from points in the Southwest to New Orleans the commission held that the barge line should receive 20 cents via Memphis and Helena, 17 cents via Vicksburg and 15 cents via Baton Rouge and that the rail carriers should receive the remainder.

As to other joint barge-and-rail rates to and from points in western or official territory the commission prescribed a rate pro-rate basis, the factor determining the barge line share to be the rates shown in a table in an appendix between the ports via which the shipment moves, and the factor determining the rail share to be the rate shown in another table giving rates for various distances in the different territories.

Joint rail-barge-rail rates for application between points in western territory on the one hand and points in western or official territories on the other hand are to be divided by using two rail factors taken from the table and a barge factor determined by using the figures in the barge table minus 7.

California Clarifies Reparation Law

The California supreme court has rendered a decision defining and clarifying the jurisdiction of the state railroad commission to award reparation to shippers in proceedings involving freight rates.

In a suit brought by the Atchison, Topeka & Santa Fe against the railroad commission, a number of carriers sought to annul an order of the commission directing the payment of reparation for the collection of charges in violation of the long and short haul provisions of the California constitution and the Public Utilities Act. It was contended that jurisdiction to award reparation was vested exclusively in the courts; but the court ruled that there is concurrent jurisdiction in the railroad commission and in the courts over the matter of reparation for the collection of such charges.

Electrification at Chicago Branded as Impossible at Present Time

Electrification of all railroads within the city limits of Chicago, which is contemplated in a bill now being considered by the public utilities committee of the Illinois house of representatives, was termed by railroad representatives, at the final hearing on the measure at Chicago on May 25, as a physical and financial impossibility at this time. The measure, known as the Gaines bill, requires electrification by January 1, 1935, and it is expected that the committee's report will be submitted to the legislature within a week.

J. L. Flanigan, representing the railroads, stated that the sale of all the air rights over railroad property would not constitute a "drop in the bucket" toward the cost of electrification of the railroad lines within the city limits. Samuel H. Cady, general solicitor of the Chicago & North Western, asserted that electrification of that road alone, would require an expenditure of about $122,000 000.

Rail Executives Urge Regulation of Trucks

Brief shows legal possibility of federal control of contract carriers

An argument to show that it is legally possible to impose a system of federal regulation of contract truck carriers is included in the brief filed with the Interstate Commerce Commission on behalf of the Association of Railway Executives in connection with the commission's investigation of co-ordination of transportation, by Alfred P. Thom and Alfred P. Thom, Jr. On the general question of truck regulation the brief says:

"A conclusive reason in favor of regulation would seem to be that without it, Congress cannot maintain as to interstate commerce the salutary principles of regulation which forbid unreasonable rates, rebates, unreasonable preferences and advantages and unjust discriminations, and, without it, shippers cannot be assured of the equality of treatment and commercial opportunity which appropriate regulation would provide.

"Another conclusive reason is that it is important in the interest of the public that rail transportation should be 'fostered and preserved in full force and vigor.' There can be no question on this record that these important and useful agencies of transportation on the highways have raised a real question as to whether, if left free of regulation while the railroads are strictly regulated and prevented from offering the attractions to traffic which their competitors are left free to offer, the railroads can continue to give the service which the public needs.

"The foregoing considerations relate to the public interest alone, but, in addition thereto, it is submitted that it is not fair to the owners of the railroads which have made vast expenditures to furnish an adequate and efficient service in transportation, to bind them by restrictions and limitations as to what they may do to get and handle traffic, and leave their important competitors for the same traffic free from all restrictions and limitations whatever. To do so would be to deny them equality of opportunity.

"Objection is made to regulation of contract carriers on the ground that no system of regulation is enforceable. If such regulation is desirable and important, it will not do to surrender to that argument. It would be simply an acknowledgment of the breakdown of

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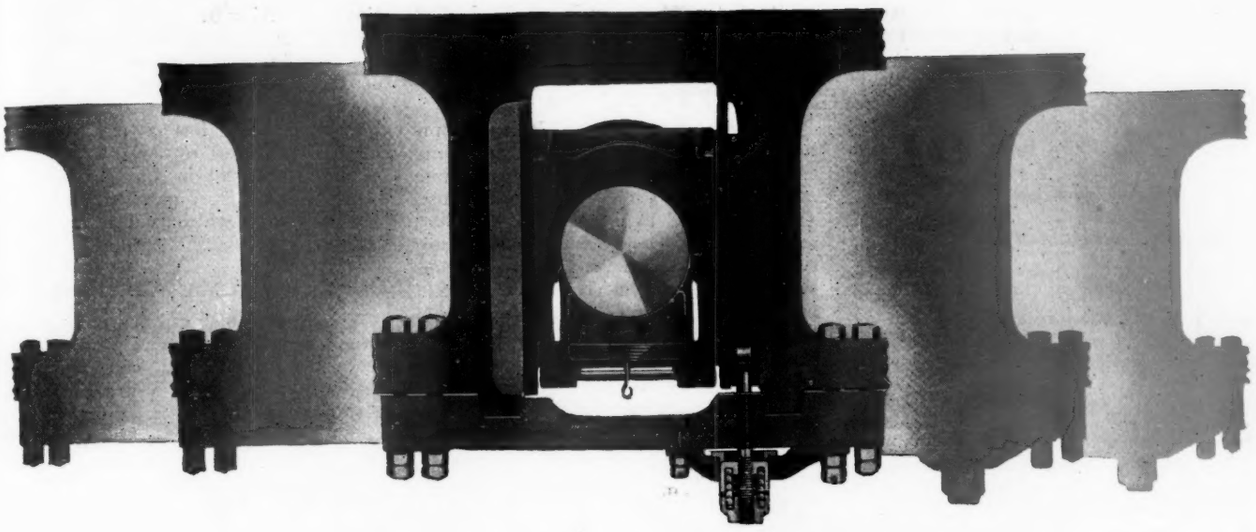

AN AUTOMATIC GUARDIAN OF WEDGE ADJUSTMENT

THE FRANKLIN SLEEVE JOINT

A reliable conduit, free from limitations in movement, permitting short vertical pipes and greater rail clearance.

WEDGE ADJUSTMENT controls the life of brasses and bushings. If slack can be kept out, their life will be prolonged.

To do this requires a change of wedge adjustment as boxes heat up in service. Ordinary wedges even if properly set when cold cannot be right when the engine is at working temperature.

Only Franklin Automatic Adjustable Wedges can keep wedge adjustment always right and thus bar out slack.

Franklin Wedges adjust themselves with every turn of the driver, providing for expansion as temperatures increase.

They protect the foundation of the locomotive and keep maintenance in check.

FRANKLIN RAILWAY SUPPLY COMPANY, Inc.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO MONTREAL

government in this regard. There are many conceivable means by which such regulations could be enforced. It is easy to imagine that the regulations would be observed if the penalty of violating them were made the forfeiture of the vehicle or even of the license to do business, with no power to secure a reissue for a substantial period, such as a year."

New Commissioner in Missouri

George H. English formerly an assistant federal district attorney at Kansas City has been appointed a member of the Missouri Public Service Commission, succeeding S. M. Hutchison.

Bankers Favor Rate Increase

A resolution looking with favor upon "all endeavors which may be made by the railroad companies to restore their earnings to a normal basis" was adopted by the National Association of Mutual Savings Banks at its annual convention at Washington, D. C., on May 21, after a discussion of the proposed efforts of the railways to obtain rate increases.

Shippers' Board Meetings

The Allegheny Regional Advisory Board will hold its next meeting at Uniontown, Pa., on Thursday, June 11.

The Ohio Valley Shippers' Advisory Board will hold its next meeting at the Indianapolis Athletic Club, Indianapolis, Ind., on Tuesday, June 16, beginning at 9:30 a.m. Central time. The Indianapolis Traffic Club has arranged a luncheon program in honor of the shippers' board.

California Trains Consolidated

The San Francisco Limited and the Overland Limited, running between Chicago and San Francisco, Cal., over the Chicago & North Western, the Union Pacific and the Southern Pacific, have been consolidated and are now known as the San Francisco-Overland Limited; and the extra fare on the Overland is eliminated. The time of the Overland Limited has been 56 hr. and that of the San Francisco Limited 61 hr., which latter is the new schedule.

Western Railway Club Election

The Western Railway Club held its forty-seventh annual meeting and dinner on May 22, the Rev. Ernest F. Tittle, pastor of the First Methodist Church of Evanston, Ill., being the speaker of the evening. Music for the dinner, which was attended by 400 members and guests, was furnished by a male chorus composed of employees of the Chicago & Alton. Officers elected for the ensuing year are as follows: President, C. T. Ripley, chief mechanical engineer of the Atchison, Topeka & Santa Fe, at Chicago; first vice-president, O. E. Ward, superintendent of motive power of the Chicago, Burlington & Quincy, at Chicago, second vice-president, C. M. House, superintendent of motive power and equipment of the Chicago & Alton, at Bloomington, Ill.; and treasurer, J. W. Fogg, vice-president of the MacLean-Fogg Lock Nut Company at Chicago.

Ohio Court Reverses Commission in P.R.R. Bus Line Case

An order of the Public Utilities Commission of Ohio, granting to the White Star Bus Line a certificate for intrastate motor bus operation from Steubenville, Ohio, westward to the Indiana state line, and denying an application of the Pennsylvania General Transit Company, a subsidiary of the Pennsylvania for a certificate over this route, was reversed by the Ohio Supreme Court on May 20.

Alton Recalls 1,100 Mechanical and Maintenance Employees

Approximately 1,100 mechanical, maintenance of way and signal department employees of the Chicago & Alton who have been laid off for varying periods have been recalled. About 800 maintenance of way workers resumed work on May 25, and next Monday, 250 shop employees and 50 signal department men will return to work. At the same time shop work will be changed from three-days-a-week to a five-day week basis.

Empire Builder Derailed by Tornado

The Empire Builder of the Great Northern, eastbound between Seattle, Wash. and Chicago was derailed on a low embankment five miles east of Moorhead, Minn., on May 27, when struck by a tornado while traveling at a speed of forty miles an hour. One passenger was killed, three were seriously injured and forty-five passengers and nine employees sustained minor injuries when the twelve cars in the train left the track and turned on their sides. Tornado dropped the cars in a semicircle with the observation car near the track and the mail car ninety feet from the track. There was practically no damage to the track, most of the couplings held and the electric lights in the cars remained burning after the accident. The locomotive remained on the rails and proceeded to the nearest telegraph office to report the accident.

National of Mexico Establishes Agencies

The National Railways of Mexico henceforth will be represented at the offices of the Raymond & Whitcomb Company in New York, Boston, Philadelphia, Detroit, Chicago and San Francisco, and the following have been appointed traveling agents of the National Railways: T. A. Magee, Fred V. Robinson and Paul L. Klein, Chicago; C. R. Powers and Osgood Williams, Detroit, Mich.; W. B. Booth, Jr., Philadelphia; E. L. Robbins and Edward A. Bolles, New York, and J. L. Carroll Jr., and Henry S. Woodbridge, Boston, Mass.

N. & W. Veterans Meet

Twelve hundred Norfolk & Western veterans, ranging from section laborers to vice-presidents, met on May 23 at Cincinnati, Ohio, on the occasion of the second annual meeting of the N. & W. Veterans Association, and the largest single gathering of employees of the railroad in its history. W. J. Jenks, vice-president in charge of operation, presented the diamond insignia commemorative of fifty years service to five veterans. The association has a membership of 1,831, an increase of 348 since the first meeting was held in June of last year. Of this total 218 are members of the Colored Division, which will meet later in the year.

Oregon Investigates Advertising Costs

The new public utilities commissioner of Oregon, Charles M. Thomas, has requested information concerning the amount expended by railroads for advertising and the reasons therefor. The Southern Pacific, the Oregon-Washington Railroad & Navigation Company, the Oregon Short Line, the Oregon Electric, the Spokane, Portland & Seattle, the Great Northern and the Northern Pacific Terminal Company have been directed to submit, on or before June 10, a statement of money expended for advertising purposes, the character of such advertising, the dates and places where such advertising has been placed, and otherwise to give a clear outline of reasons.

Canadian Lines Reduce Passenger Service

Discontinuation of one of the daily Montreal-Quebec and Quebec-Montreal trains by the Canadian Pacific, and the breaking away by the Canadian National from their established custom of running their summer transcontinental train, the Confederation, this year, were simultaneous announcements by the two railway systems in the interest of economy. The C.P.R. will no longer run the Quebec train leaving Montreal at 12:10 p.m., E.S.T., or the train leaving Quebec at 8:15 a.m. and the C.N.R. will operate only one transcontinental trains daily, namely, the Continental Limited, operating between Montreal and Vancouver.

"Careful studies are continuing and further reductions in passenger train service will likely be made in certain sections," it was announced by Sir Henry Thornton, president of the C. N. R.

New C.P.R. Line in Montreal Approved

By a vote of 60 to 14 the House at Ottawa in committee last week approved of a bill of the Canadian Pacific Railway to construct a short line in the northeastern part of the city which would serve to shorten by fifteen miles its Montreal-Quebec line and give readier access to its Place Viger terminal in the east central part of Montreal. It was opposed by some Quebec members, notably those representing Federal seats in the east part of Montreal who spoke on behalf of property owners, these owners objecting to the further dislocation of city property by an additional line, particularly as it is suggested that it should be an elevated road. Not so long ago and this year there was a fight by city authorities of Montreal against the Canadian National Railways building an elevated line not far distant

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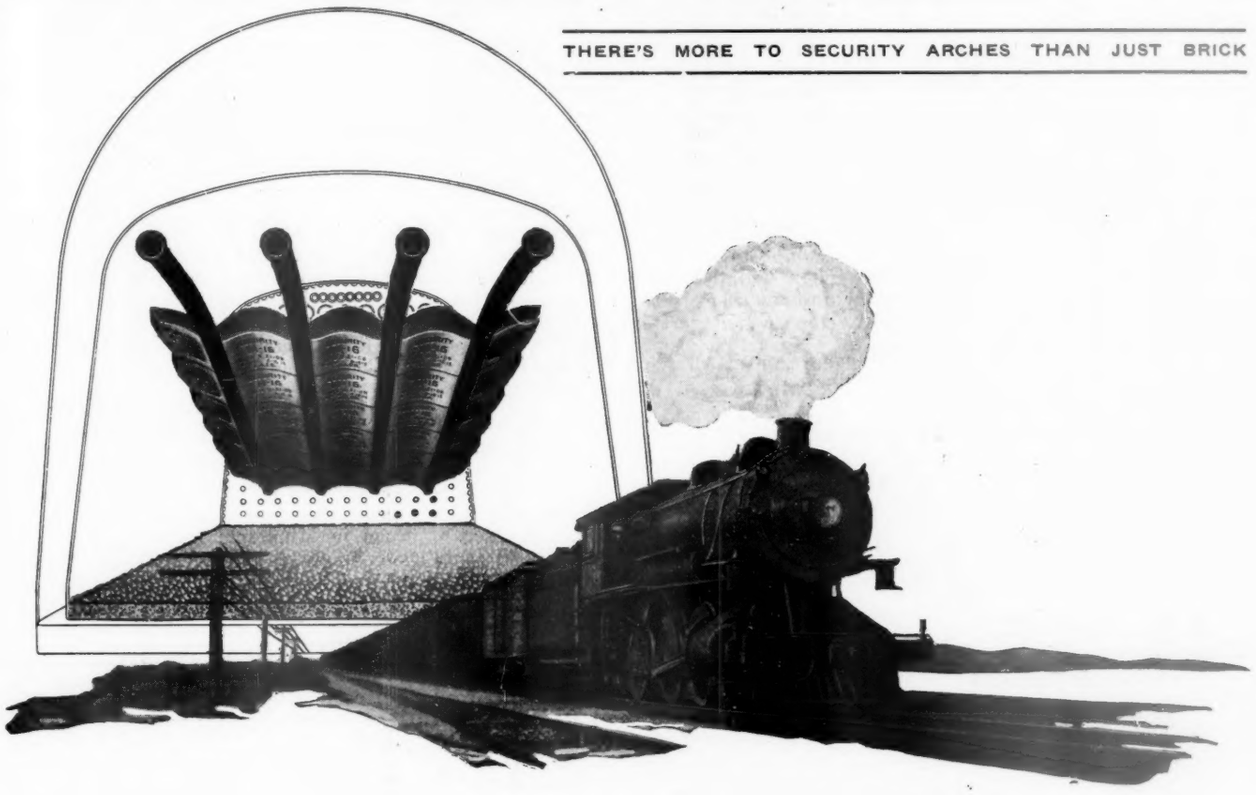
THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK



Arch Engineers

know *each* locomotive *before* it is born

FOLLOWING the custom of twenty-one years, engineers of American Arch Company are still called upon to lay out the Arch when the locomotive is on the drawing board.

Starting with this early acquaintance, American Arch engineers follow the new locomotive thru the builders and help to break it into service.

No wonder they know intimately the motive power of the country. No wonder their counsel is sought when combustion troubles arise.

This engineering service is essential to satisfactory locomotive Arch performance because the Arch is not just a pile of brick — it is an engineering specialty.

HARBISON-WALKER REFRACTORIES CO.
Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion Specialists

from this area and that fight to force the road to depress its track is still being waged.

When opposition to the measure developed the Minister of Railways, Hon. R. J. Manion, intervened and declared there should be no objection because the Canadian National was not opposed to it.

N. C. & St. L. Reduces Fares

The Nashville, Chattanooga & St. Louis has established reduced passenger fares for the summer months. A rate of approximately one cent a mile is available on round-trip coach tickets sold each Friday, Saturday and the forenoon of Sunday during July and August; good until midnight of the following Tuesday. Each office will sell tickets to all stations within 500 miles.

In addition, tickets good to all points in the southeast and good in either coaches or sleeping cars will be sold at a rate of approximately two cents a mile. These tickets are on sale each Friday, Saturday and Sunday forenoon from May 22 until October 5, with a return limit of midnight of the Tuesday following the date of sale.

Great Western May Buy St. Paul Bridge & Terminal

The Chicago Great Western is negotiating with Swift & Company and the Stock Yards Company of South St. Paul, Minn., for the purchase or lease of the St. Paul Bridge & Terminal Railway. The packing companies are seeking to dispose of the road under the terms of the consent decree which forbids the ownership of railroad properties by the packers. The St. Paul Bridge & Terminal has about 48 miles of track between the St. Paul union stock yards and the railroad connections at St. Paul and South St. Paul. The Great Western is also considering the absorption of the Mason City & Fort Dodge, which it now leases and controls.

Pennsylvania Plans Extension of Container Services

Extension of its container car service for merchandise freight to all important points on the Pennsylvania was announced May 27 by M. W. Clement, vice-president in charge of operation, as a development of the immediate future.

Orders for more than $1,500,000 worth of additional merchandise containers will be placed at once as part of the program for expansion, these orders to call for 3,250 additional containers, all of which will be built in the railroad's shops at Enola, Pa., at Pitcairn and at Altoona. At the present time the Pennsylvania has in service 1,010 steel containers, each having a capacity of 10,000 pounds. Flat cars, equipped for the purpose, carry five of these containers with a possible capacity carload of 25 tons. The present service is operated between the New York metropolitan area and the principal points in the Pennsylvania's Eastern region, as well as Pittsburgh, Columbus, Cincinnati, Indianapolis and Chicago.

Distinct economies in operation as well as expedited service will result from the enlarged operation, Mr. Clement said. The new service will make possible the consolidation of l.c.l. shipments at all central points for direct dispatch to Pennsylvania points. The flexibility of the container not only enables the railroad to give expedited service to package freight in greater carloads, but also offers the additional advantage that the containers can be trucked to and from the railroad freight station, practically bringing the freight car to the store door, and thereby greatly reducing the ultimate cost of the transportation to the shipper and the consumer.

Further Efforts Being Made to Mediate L. & A. Wage Cut Dispute

The emergency board appointed by President Hoover to investigate and report on the controversy between the Louisiana & Arkansas and its shop employees, which threatened to result in a strike after the company had proposed to reduce the hourly wages from 80 to 75 cents because of its financial condition, submitted its report to the President on May 16, but, contrary to the usual practice in such cases, it was not made public. Instead, it was announced later at the White House that the management of the road had been asked to come to Washington for further conference with the Board of Mediation in an effort to bring about an adjustment. The law provides that for 30 days after such a board has made its report no change, except by agreement, shall be made by the parties to the controversy in the conditions out of which the dispute arose.

Cotton Belt Indicted in Test Case on Rail-Highway Service

The St. Louis Southwestern was charged with rebating in two indictments returned by the Federal Grand Jury at Memphis, Tenn., on May 19. The alleged rebates were paid, it is said, to shipper utilizing the joint rail and truck service of the Cotton Belt and its subsidiary, the Southwestern Transportation Company, between Memphis and Eldorado, Ark. The indictments charged that the railroad refunded to shippers all of or part of the trucking charge involved in moving freight between Camden, Ark., and Eldorado and in other cases assumed the expense of trucking freight routed over the Cotton Belt between the doors of shippers and consignees and the stations of the railroad. A statement issued by the Cotton Belt declared that this is a test case to determine the legality of certain methods of operation concerning which the railroad and the Interstate Commerce Commission have held a difference of opinion.

Historical Bulletin No. 25

The Railway & Locomotive Historical Society, Boston, Mass., has issued its 25th bulletin, a pamphlet of 50 pages, illustrated with photographic halftone engravings of old locomotives. The principal articles are: One on the Hinkley Locomotive Works, Boston, which works was a notable institution in the American railroad world for many years following the opening of the first steam railroad in Massachusetts, in 1834; locomotives of the Grand Trunk of Canada, and a short article on the Birmingham & Derby Junction Railway, of England.

The Society has begun a collection of historic locomotive pictures in the shape of negatives, from which photographs will be made, at from 35 cents to one dollar a copy, for members desiring them. The negatives thus far gathered are mainly of locomotives of the Boston & Maine and the New York, New Haven & Hartford. Orders for prints should be sent to J. W. Merrill, vice-president, 40 Broad street, Boston, Mass.

Chicago Great Western Denied Minnesota Truck Permit

The application of the Chicago Great Western for permission to operate motor trucks between points served by the railroad in Minnesota has been denied by the Railroad and Warehouse Commission of that state. The Great Western did not propose to operate motor trucks in competition with existing truck lines but intended to use the trucks in place of train service, at a reduction in operating costs estimated at $28,000 per year. One reason advanced by the commission for the denial of the Great Western's application was the bill passed recently by the Minnesota legislature providing that no railroad be authorized to engage in motor truck operations. This bill was not approved by the governor of the state, but the commission held that its passage by the legislature indicated a desire on the part of the people of Minnesota to prevent further railroad operation of motor vehicles.

Joint Committee on A.R.A. Loading Rules

To provide for a co-ordinated and orderly method of distributing information developed on the subject of loading freight, there has been formed, with the concurrence of the general committees of the interested divisions of the American Railway Association, a Joint Committee on Loading consisting of a representative from the Car Service, Freight Claim, Mechanical and Transportation divisions. The personnel of the committee includes: Chairman, C. B. Wright who is also chairman of the general committee of the Transportation division; S. Lynn chairman of the Committee on Loading Rules of the Mechanical division; W. J. McGarry, manager of the open car section of the Car Service division, and F. E. Winburn, special representative of the Freight Claim division. Heretofore these divisions dealt with certain phases of the work, and under the new arrangement the joint committee will have ready access to all information. Mandatory methods of loading which pertain particularly to safety in train and yard operation are handled by the Mechanical division. Recommended methods for loading various commodities are handled by the Transportation

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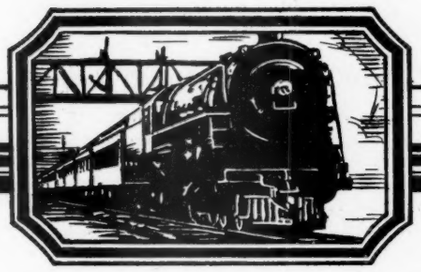

Alco Alco

TO ECONOMIZE— MODERNIZE

The number of locomotives in service in Class I roads numbered 57537 in 1929, a reduction of one per cent below 1911, and a reduction of 12 per cent below the peak year of 1924.

However, in 1911 only 39 per cent of the locomotives on line were over 10 years old. In 1924 the number of locomotives over 10 years old had increased to 74 per cent, and in 1929 it had again increased to 80 per cent.

If progress in the art of locomotive designing had come to a standstill years ago, one might justify these figures. But knowing that the past ten years have contributed many major improvements in locomotive design, that even during the last five years still more advanced thought has been applied, and that at no time in history has there been the effort that is being made today to improve locomotive efficiency and capacity, one is forced to admit that for years the expenditures for modern locomotives have been entirely too small.

Dr. Julius Klein, in a recent address, made the statement: "Don't overlook the perils of obsolete equipment. It is wiser to have the junk heap outside the factory than in it."

American Locomotive Company
30 Church Street New York N. Y.

Alco Alco

division. The Freight Claim division promulgates suggestions pertaining to loading methods. The Freight Container Bureau functions primarily in the development and study of containers and packages but in doing so, however, it necessarily takes into consideration loading methods. The Car Service division develops valuable data with respect to the subject of heavier loading.

Parcel Post Hearings

Hearings on the application of the Postmaster General to the Interstate Commerce Commission for its consent to a general revision of parcel post rates designed to overcome the deficit of $15,000,000 a year which the department estimates it is incurring in the handling of parcel post matter, were resumed on May 25 before Commissioner H. M. Tate and Examiner Mullen. Jennings Wise, counsel for the department in this case, asked that the commission advance consideration of that part of the case which involves an increase in the size and weight of mailable parcel post packages, but decision was reserved. No objection was made by the representatives of shippers' organizations who are opposing the rate increases proposed by the department, but objection was made on behalf of the Railway Express Agency, Inc., which is opposing the reductions in rates for the longer hauls and heavier packages. In spite of the position taken by the department that its cost ascertainment estimates should be accepted by the commission, Commissioner Tate, without a specific ruling, permitted cross-examination of the department's witnesses by representatives of the shippers who are contending that a different apportionment of common expenses in the department would have shown a profit from parcel post.

Eastern Committee Prepares for Rate Increase Petition

A resolution directing that the determination of specific adjustments in rates required to improve railway revenues be left to traffic, legal and accounting committees of the interested railroads was adopted on May 27 at a meeting in New York City of the special committee of Eastern railroad presidents appointed recently to make a study of the freight rate structure. This committee consists of the following railway presidents: J. J. Pelley, New York, New Haven & Hartford, chairman; W. W. Atterbury, Pennsylvania; Daniel Willard, Baltimore & Ohio; P. E. Crowley, New York Central; J. J. Bernet, Chesapeake & Ohio; J. M. Davis, Delaware, Lackawanna & Western, and C. H. Hix, Virginian.

After adjournment of the meeting the following statement was issued:

"At a meeting of the special committee of Eastern presidents held today, the following was adopted:

" 'Resolved, That the question of what increase in freight rates is necessary to meet the present emergency be referred to the traffic, legal and accounting committees to determine what such increase should be and prepare proper application to cover; report to be submitted for the approval of this committee at a meeting to be held at 2:00 P. M., Friday, June 5.' "

American Express Company Tours

The American Express Company will operate a series of nine escorted all-expense tours from Chicago, one tour leaving each Saturday from June 27 to August 22. The two-weeks itinerary includes La Junta, Colo., Grand Canyon, Los Angeles, Cal., Yosemite, San Francisco, Salt Lake City, Utah, Colorado Springs, Colo., and Denver, but the tour can be extended to include also the Indian Detour, Honolulu and Yellowstone National Park. It is also possible to omit the portion from San Francisco east and continue up the coast to Portland, Ore., Seattle, Wash., Vancouver, B. C., Lake Louise, Alaska, Moose Jaw, Sask., and the Twin Cities. This tour requires six days more and provides for a further extension to Alaska. While the tours are scheduled to leave Chicago, the company will also operate tours from cities in the east and south. Persons who depart from the latter points join and leave the scheduled tours at such places as Chicago, Kansas City, Mo., Albuquerque, N. M., Los Angeles and San Francisco.

The express company is also offering nine-day escorted all-expense tours from Chicago to Chicoutimi, Que., each Saturday from June 20 to August 29. The Michigan Central-Canadian Pacific or the Grand Trunk-Canadian National are used between Chicago and Toronto, Ont., while steamships are used across Lake Ontario, down the St Lawrence river and up the Saguenay river.

Hudson Bay Line Opening Postponed

A further conference early in June between the heads of the two Canadian railways and Hon. Robert J. Manion, Minister of Railways, to deal with the question of a Peace River railway outlet to the Pacific Coast was announced in the House at Ottawa last week by Dr. Manion in discussion of the estimates of his Department. During the same debate he announced that the official opening of the Hudson Bay Railway, which with its terminals will cost altogether about $50,000,000, will not take place until next year, and that only trial grain shipments would move over the road to Fort Churchill, the Bay terminus, this fall. He stated, too, that while he was asking only $3,000,000 this year for the final work on the new Welland Ship Canal, it would require $4,000,000 more next year to complete the work. The total cost of that new shipway will be about $122,000,000. Progress in the negotiations between the Canadian and American authorities in regard to the St. Lawrence deep waterway project was also indicated by the Minister of Railways in the following words:

"This is an international and a national-provincial matter. It is also a matter for the state of New York. All these different parties are interested, the provinces, the state, the Dominion, and the federal government of the United States. I cannot say as to the exact position of the matter, but I understand that arrangements still remain to be made between the two governments, and perhaps between the state of New York and this government or the state of New York and the federal government of the United States. There are these different understandings to be brought about before anything can be done."

Reduced Rates on Pipe Disapproved

Reductions proposed by the southern railroads in the freight rates on cast-iron pipe and fittings from Birmingham, Ala., Chattanooga, Tenn., and points grouped therewith, to Virginia, South Atlantic and Gulf ports for coastwise movement beyond, to and through North Atlantic ports were found not justified by the Interstate Commerce Commission in a decision made public on May 22, on the ground that they would impair the revenues of the carriers and tend to disrupt the rate structure. The rates had been proposed on representations by Birmingham manufacturers that they were unable to sell cast-iron pipe on the eastern seaboard under the present rate adjustment and the tariffs were suspended on protests made by the eastern railroads and by manufacturers in New York, New Jersey and Pennsylvania.

Commissioner Lewis, in a concurring opinion, said that his concurrence was based on the record but that "beyond that is the fact that at this particular time carriers are asserting that increases in rates all over the country are necessary to maintain stability, service and credit. In the face of such a declaration, the proposal of carriers to cut their rates 50 per cent, and particularly when the present rates prevail in lower rated territory, seems incongruous."

The commission held that the evidence was not convincing that southern manufacturers are unable to ship cast-iron pipe all-rail to the eastern seaboard and that the present rates are very favorably related to those from the competing factories in official territory. The southern roads had contended that the rates could not be found unduly prejudicial to manufacturers in official territory because the carriers in that territory do not participate in the rates from southern origins and the southern roads do not participate in the rates from foundries in official territory to destinations in that territory. Commissioner Farrell dissented, saying that the facts did not appear to him to indicate that any provision of the interstate commerce act would be violated if the suspended rates were made effective.

Permanent Transport Exhibition in New York Museum

A permanent exhibition of the development of land and sea transportation comprising exact scale models of ships, trains, wagons, automobiles and other conveyances, together with historic originals and replicas, was opened on May 25 at the Museum of Science and Industry, 220 East Forty-second street, New York City by Frederic B. Pratt, president of the museum.

The exhibition contains three divisions, devoted to displays of highway, railroad

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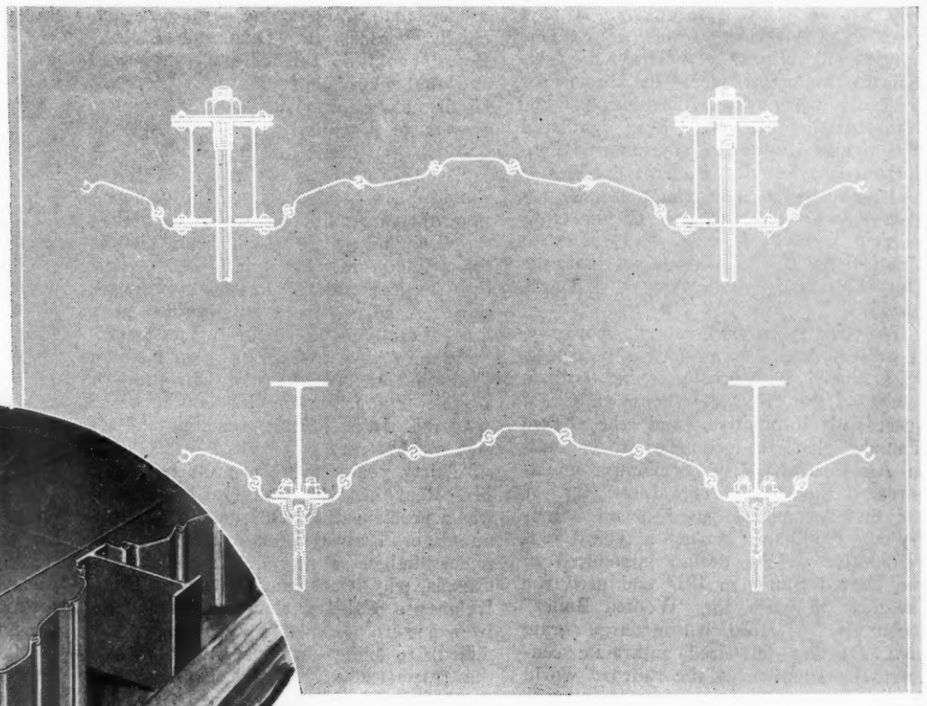

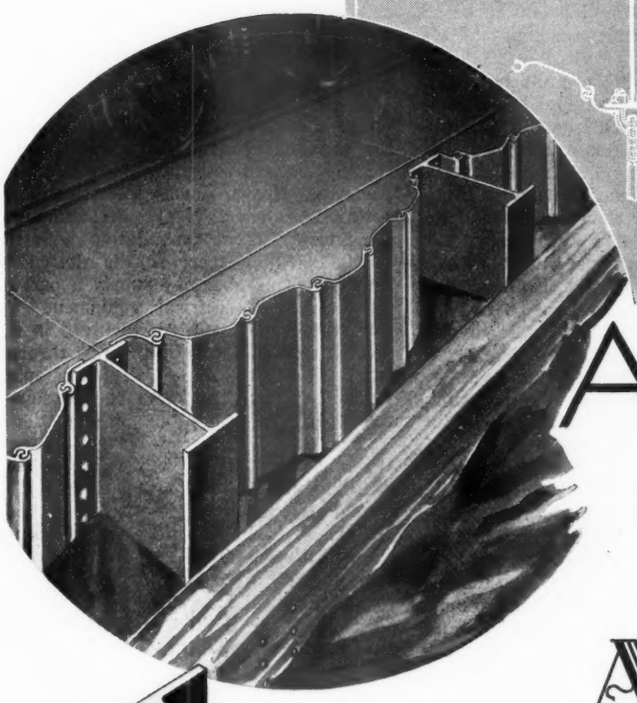

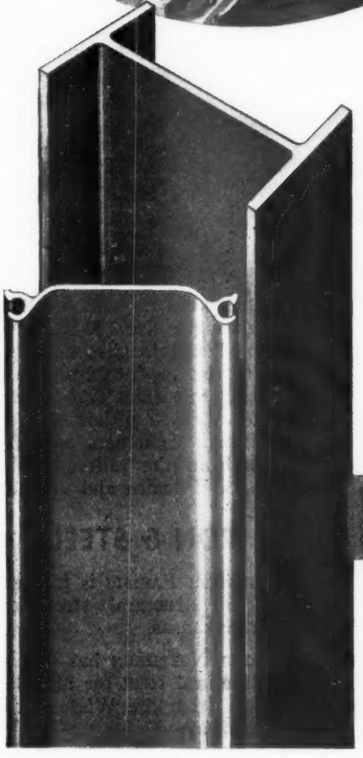

A *Steel* Wharf

for any depth of channel and any surcharge load

A PARTICULARLY efficient and economical type of wharf and bulkhead construction is illustrated herewith. By varying the weight of the C B Sections and the spacing of the master piles, a wharf of any desired bending strength or any depth of channel can be constructed. An anchor rod is used for each master pile. No waling is necessary, as the piling, driven in the form of an arc, is entirely in tension.

This type of construction, incorporating C B Sections and Carnegie Steel Sheet Piling . . Section M 107 . . was successfully used for wharf at Gravesend Bay, New York, and more recently at Panama City. A new job at Alpena, Michigan, now under construction, incorporates a double master pile as shown at top of illustration. Carnegie Engineers are at your service at all times.

CARNEGIE STEEL COMPANY • PITTSBURGH

Subsidiary of United States Steel Corporation

139

CARNEGIE

STEEL SHEET PILING

and marine travel respectively. It is a part of a projected series of exhibits which will ultimately portray the significant historical steps in the major fields of man's material evolution. The transportation exhibits were gathered and arranged under the direction of Professor Charles R. Richards, educator and authority on industrial museums, assisted by Carlos de Zafra, of the engineering faculty, New York University; Charles E. Duryea, co-inventor of the Duryea automobile; and Henry O. Havemeyer, Jr.

The history of railroad transportation is presented in a series of chronologically arranged models. Beginning with a model of the "Rocket," the world's first successful locomotive, and the "Tom Thumb," the first locomotive to be built in America, the display includes miniatures of the "Stourbridge Lion," one of the first locomotives used in this country, the "William Crooks," a typical representative of the design introduced in the United States in 1837 and used for the next 55 years, the "Wooten Boiler" locomotive of 1880 whose large grate area, burning fine-sized anthracite centered the attention of the railroad world on boiler development, through to the first electric locomotive of 1895 to be used in trunk line service, a model of the first Mallet type locomotive to be built in this country, a representative of the heaviest type of modern freight locomotives and the latest high pressure multiple expansion locomotive of today which shows a mechanical efficiency of 90.7 per cent.

A feature of the railroad division is an actual size replica of Stevenson's "Rocket," with sections of the working parts cut away to reveal its principles of operation. This replica, complete in details and made by the locomotive company which built the original more than one hundred years ago, is fifteen feet high, seven and one-half feet in length, and weighs approximately 7,000 pounds. It is accompanied by a tender, four feet long, supporting a wooden water barrel.

A series of models is also displayed which show passenger car development, while freight transportation is represented in models of ventilated refrigerator cars, auto freight cars, coal cars, mail cars and others. Included in the railroad division are displays showing the development of the railroad track, railroad signals and roadbed construction. There are also three visitor-operated models of the most important types of locomotive valves and reversing gears, detailing the basis of their working and construction.

Canada's Premier Opposes Political Rate Making

Premier R. B. Bennett made a statement in the House of Commons at Ottawa last week in a debate precipitated by a motion of Thomas Reid, a Liberal member from British Columbia, who demanded an early hearing by the Dominion Railway Board of domestic freight rates in his province as those rates affect the poultry industry. Premier Bennett was opposed to having the government asked to see that an early hearing was held, chiefly because the Dominion Railway Board could do this of its own accord and the government need not intervene. He also stated his views about the relative powers of the Railway Board and the Cabinet on freight rate questions.

"No government desires that there should be occasioned, in the transportation of commodities, rates greater than the Canadian people should bear. On the other hand, no government desires that this service rendered by the transportation companies should be provided at a loss. Now, between these two principles there must be a medium and that medium determines the freight rate, that is to say, a fair compensation for the service rendered. It is difficult sometimes to arrive at that rate.

"Thirty years ago the problem which Mr. Reid has discussed in this house was a problem to which I gave some little attention. I always found it difficult to understand, as a new settler in western Canada, why it cost more money to bring freight to Calgary than to Vancouver, from eastern Canada. I always found it difficult to understand just on what basis the rate structure of the country was fixed, but I took the trouble to investigate the matter. The classic case in this connection is the Spokane case, which ultimately went to the supreme court of the United States. It is a very interesting study in the whole question of freight rate structures and of terminal rates, as distinguished from intervening local rates on freight. The position is this, that by universal practice in railway rate structures you have first a cheaper through rate to terminals than you have to intervening points on a mileage basis, and although railway legislation of most countries provides that there should be no discrimination, nevertheless the application of the general rate per mile on the distance covered by the cars laden with the freight is held not to be applicable where you have water competition at a terminal point.

"This parliament has created a court of record known as the Board of Railway Commissioners for Canada. This is not a voluntary tribunal nor an association; it is a court of record, provided by statute in the exercise of our powers over matters of that kind. That is a court which has been established in the same way as the Supreme Court of Canada is established, or the exechequer court. It is presided over by a chief commissioner, with associate judges or commissioners, just as the Supreme Court of Canada has a chief justice and associate judges. That court has complete control and authority over all questions relating to the operation of railways, including the charges to be made for the handling of traffic. The word "traffic" of course is defined as meaning both the carriage of passengers and of inanimate freight. That tribunal having been created, we have endeavoured to the best of our ability to ensure it from interference by parliament. Why? Because parliament is composed of partisans. Whether we like it or not, we are all partisans."

Equipment and Supplies

LOCOMOTIVES

P.R.R. Places $16,000,000 Order for Electric Locomotive Apparatus

The Pennsylvania has placed orders with the Westinghouse Electric & Manufacturing Company and the General Electric Company at an approximate cost of $16,000,000, for the electrical apparatus to be installed in 150 electric passenger and freight locomotives, constituting part of the equipment which will be used when electrification is completed between New York, Philadelphia, Baltimore and Washington.

The Pennsylvania's program also calls for the later purchase of 80 additional electric locomotives of other types. The American Brown-Boveri Electrical Corporation, Camden, N. J., the announcement states, is in consultation with the railroad with respect to the design of some of them, and may supply a part of the necessary electrical equipment.

Of the 150 locomotives involved in the present order, 90 will be for fast through passenger trains and 60 for high speed freight service. They have been designed for operating conditions in the dense traffic territory between New York and Washington, and particularly the speedy handling of long and heavy trains. The weight of the passenger engines will be 375,000 lb. each, and that of the freight engines 330,000 lb.

Forty-three of the new locomotives are to be delivered this year and the remainder before the middle of 1933, when it is anticipated that the electrification work between New York and Washington will be completed in connection with the station, track and tunnel improvements at Newark, Philadelphia and Baltimore.

There are now in use on the Pennsylvania System 61 electric locomotives and under construction 96 locomotives which will be increased to 326 by those now authorized and those contemplated for later purchase.

FREIGHT CARS

THE PENNSYLVANIA will at once place orders for more than $1,500,000 worth of additional merchandise containers as part of the program for expansion of this service to all important freight terminals on its lines. These orders will call for 3,250 additional containers, all of which will be built in the railroad's shops at Enola, Pa., at Pitcairn and at Altoona.

IRON & STEEL

THE MISSOURI PACIFIC is inquiring for 900 tons of structural steel for two bridges in Arkansas.

THE GREAT NORTHERN has ordered 300 tons of structural steel for miscellaneous bridge work from the Wisconsin Bridge & Iron Company.

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For Carrying Heavy Loads

In the complete range of C. B. Sections produced by Illinois Steel Company at their new Chicago Mill, are sections as large as thirty-six inches in depth. The strength of these sections commends their use in bridges, viaducts, and buildings—wherever loads must be carried safely and economically.

Illinois Steel Company
SUBSIDIARY OF UNITED STATES STEEL CORPORATION
208 South La Salle Street, Chicago, Ill.

C. B. SECTIONS

THE CHICAGO & NORTH WESTERN has ordered 700 tons of structural steel for track elevation work from the American Bridge Company.

THE TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS has ordered 3,000 tons of structural steel for a viaduct at St. Louis, Mo., from the Mississippi Valley Structural Steel Company.

THE ILLINOIS TERMINAL RAILROAD SYSTEM has ordered 1,600 tons of structural steel for a bridge approach at St. Louis, Mo., from the Mississippi Valley Structural Steel Company.

SIGNALING

Retarders for Galesburg

The Chicago, Burlington & Quincy has ordered from the Union Switch & Signal Company materials for an electro-pneumatic car retarder system for the eastbound yard at Galesburg, Ill.; 20 retarders, 52 electro-pneumatic switch movements, eight signals, etc. There will be three control towers. The yard at present consists of 49 tracks, which number may be increased to 56.

Supply Trade

W. L. Lewis, vice-president in charge of finance of the **Chicago Pneumatic Tool Company,** New York, has been elected executive vice-president.

J. C. McQuiston, general advertising manager of the **Westinghouse Electric & Manufacturing Company,** East Pittsburgh, Pa., will retire on June 1.

C. H. Butts, assistant to the vice-president of the **Newton Steel Company,** has been elected vice-president in charge of all operations, with headquarters at Youngstown, Ohio, to succeed **C. B. Pollock,** resigned.

Wilbur McGirr, Hawthorne traffic agent of the **Western Electric Company,** has been appointed motor traffic manager, with headquarters at New York, succeeding **H. A. Harvey,** who has resigned, effective June 1, to accept a position with **Trucking, Inc.,** at Cleveland, Ohio. **H. W. Hamilton** succeeds Mr. McGirr as Hawthorne traffic agent.

J. R. Crocker, for a number of years district manager of the **Permutit Company,** New York, who has been associated with the company since 1913, has been appointed special western railroad representative, with headquarters at 215 Pershing Road, Kansas City, Mo., and **W. R. Toppan** has been appointed special eastern railroad representative, with office at 332 South Michigan avenue, Chicago.

Joseph A. Carlin, formerly receiver, has been appointed general manager, under a reorganization plan of the **Hutto Engineering Company Inc.,** Detroit, Mich.; **Frank J. Jeschke** has been appointed sales engineer; **Ben O. Isom** has returned to the company's service as factory representative for Detroit and Chicago territories; **William F. Toepfer** has been appointed factory representative for Philadelphia, New York and Boston territories; **J. L. Navin** has been appointed field engineer for Cleveland, Pittsburgh, Buffalo, Rochester and Syracuse territories and **James G. Young** is assuming responsibility for sales until June, when he will leave on a foreign tour prior to locating in Europe as the Hutto Engineering Company's oversea representative.

John Thomas, general sales manager of the **McIntosh & Seymour Corporation,** Auburn, N. Y., has been appointed vice-president in charge of sales, with the same headquarters. Mr. Thomas was born in Alabama and is a graduate

John Thomas

engineer. He served for ten years with the General Electric Company during the latter part of which he was in charge of the marine section. Mr. Thomas was appointed general sales manager of the McIntosh & Seymour Corp. in October, 1930.

J. S. Tritle, vice-president in charge of manufacturing of the **Westinghouse Electric & Manufacturing Company,** at East Pittsburgh, Pa., has been elected vice-president and general manager in charge of manufacturing, sales and engineering operations of the company, reporting to President F. A. Merrick, with headquarters as heretofore at East Pittsburgh. Mr. Tritle was born at Virginia City, Nev., in 1872 and was graduated from Yale University in 1893 with a degree in science. In 1895 he entered the electrical engineering contracting business, in which he continued for eight years. At the outset of the St. Louis World's Fair, he served as chief of construction and at the close of the fair, he was made manager of the Kansas City district for the Westinghouse Company. In 1915 the St. Louis and Kansas City offices were consolidated and Mr. Tritle assumed charge of both. In 1922 he was made manager of the merchandising department, a division of the general sales department of the company. In 1925, when a separate department was made of the merchandising business, Mr. Tritle was made general manager of the merchandising department, with headquarters at Mansfield, Ohio, overseeing engineering and manufacturing as well

J. S. Tritle

as sales work, of that department. On May 1, 1929, he was appointed vice-president in charge of manufacturing operations, with headquarters at East Pittsburgh, and now becomes vice-president and general manager in charge of manufacturing, sales and engineering operations of the company.

OBITUARY

Harrington Emerson, consulting engineer, New York, died on May 23 at the age of 77.

Construction

CHICAGO & NORTH WESTERN.—The Wisconsin State Highway Commission has awarded a contract to C. R. Meyer & Sons, Oshkosh, Wis., for the construction of a viaduct over the tracks of this railroad at Cedar Grove, Wis., at a cost of $18,675, which will be borne jointly by the railroad and the state.

CHICAGO, BURLINGTON & QUINCY.—A contract has been let by the Wisconsin State Highway Commission to J. E. Hinman & Son, Glenwood City, Wis., for the construction of a viaduct over the tracks of this company at Hager, Wis., at a cost of $17,723, which will be borne by both the railroad and the state.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—The Wisconsin State Highway Commission has awarded contracts for grade separation structures over the tracks of this company in Wisconsin involving a total expenditure of $378,170, which will be borne jointly by the railroad and the state. The projects, with

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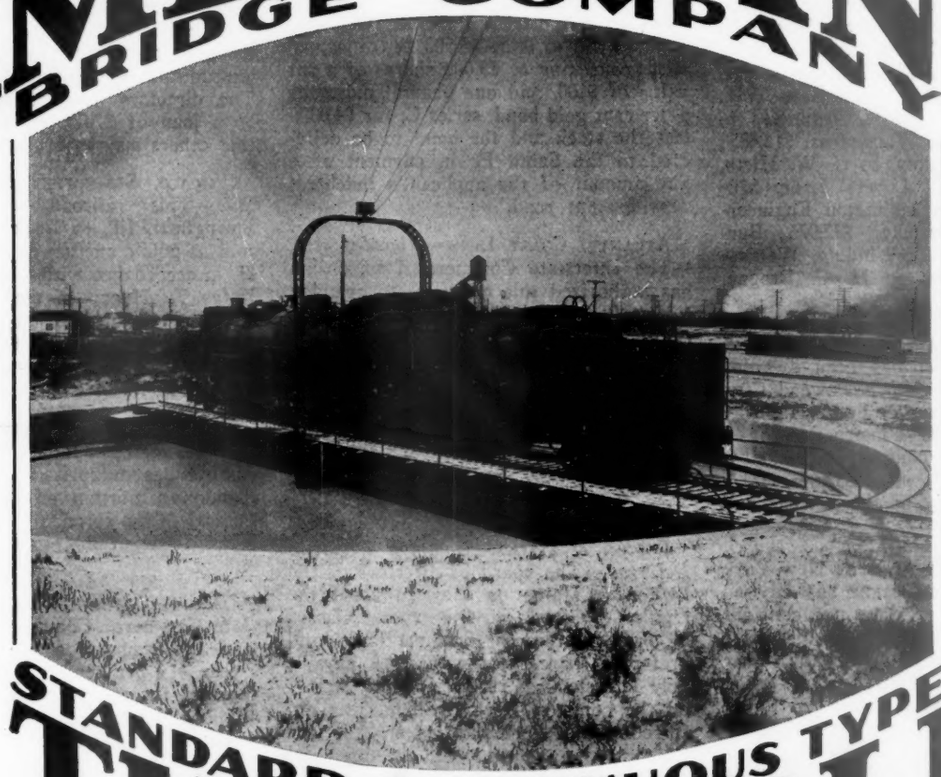
AMERICAN BRIDGE COMPANY



STANDARD CONTINUOUS TYPE TURNTABLES

—Consist of a pair of shallow deck plate girders rigidly braced together and supported by the center and circle rail so that they act as a continuous structure on three supports; a wheel at each end of the table is driven along the circular rail by a suitable motor and gearing, making the table a self contained machine. These tables are proportioned for typical engines appropriate for each length and selected to provide large center sections.

Some of the important advantages of the continuous type of turntable are: Much longer locomotives can be turned on a table of given length and no time is lost in balancing them; separate tractors and latches are not needed; the horizontal rigidity of the continuous structure insures correct alignment of the table and approach rails; the pits are shallow and readily drained; the cost of pit construction and the cost of maintenance of the pit and table are less than for the cantilever type.

Inquiries will be given prompt attention and additional information furnished on request

American Bridge Company

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

General Offices: 71 Broadway, New York, N. Y.

New York, N. Y.: Philadelphia, Pa.; Boston, Mass.; Baltimore, Md. **Pittsburgh, Pa.:** Detroit, Mich.; Cleveland, Ohio; Cincinnati, Ohio
Chicago, Ill.: Duluth, Minn.; St. Louis, Mo.; Minneapolis, Minn.; Denver, Colo.; Salt Lake City, Utah
Pacific Coast Distributors—Columbia Steel Company: San Francisco, Portland, Seattle, Los Angeles, Honolulu
Export Distributors—United States Steel Products Co., 30 Church St., New York, N. Y.

the names of the contractors and the cost of each, are as follows: Truesdell, to Jacobus & Winding, Wauwatosa, Wis., $61,995; Madison, to Eau Claire Engineering Company, Eau Claire, Wis., $42,980; East Forest Junction, to Simpson & Parker, Appleton, Wis., $13,735; Howell, Racine county, to Wisconsin Bridge & Iron Co., Milwaukee, Wis., $26,490; West Hayton, Calumet county, to W. J. Sweeney, Green Bay, Wis., $16,670; Genz, Kenosha county, to Jacobus & Winding, Wauwatosa, $13,485; Lien, Walworth county, to G. W. Hirth, Milwaukee, $12,815; Lovers' Lane, Milwaukee county, to Coddington Engineering Company, Milwaukee, $82,975; Burlington, to Jacobus & Winding, Wauwatosa, $16,210; Ryan, to H. C. Brogan, Milwaukee, $90,815.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—A contract has been awarded to J. E. Hinman & Son, Glenwood City, Wis., by the Wisconsin State Highway Commission for the construction of a viaduct over this company's tracks at Minong, Wis., at a cost of $32,645, which will be borne jointly by the railroad and the state.

DELAWARE & HUDSON.—The New York Public Service Commission has advised this company that it does not consider excessive the bid submitted by the Bates & Rogers Construction Company, New York City, for elimination of grade crossings at West Main street and Ryder and Washington avenues, Cobleskill, N. Y.

KANSAS CITY SOUTHERN.—Bids were closed on May 18 for the construction of a 1,060,000-bu. capacity reinforced concrete addition to the grain elevator of this company in the Northeast Industrial district at Kansas City, Mo., which is under lease to the Norris Grain Company.

MINNEAPOLIS & ST. LOUIS.—The Iowa State Highway Commission received bids until May 26 for the construction of a highway viaduct over the tracks of this company on U. S. Road 30, east of Marshalltown, Iowa.

NEW ORLEANS PUBLIC BELT.—The project for the construction of a combined railroad and highway bridge over the Mississippi river near New Orleans, La., has been indefinitely held in abeyance.

NEW YORK CENTRAL.—This company has been advised by the Public Service Commission of New York that it does not consider excessive a bid submitted by the Walsh Construction Company, Syracuse, N. Y., for the elimination of the Gouverneur street crossing of the railroad in Canton, N. Y.

UNION (Memphis).—This company and the City of Memphis (Tenn.) plan the construction of a viaduct, approximately 2,300 ft. in length, over the railroad's tracks on Summer avenue, near Bingham street, Memphis, at an estimated cost of $300,000.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Securities of Gulf, Colorado & Santa Fe.*—The Interstate Commerce Commission has authorized the Gulf, Colorado & Santa Fe to issue $5,500,000 of capital stock consisting of 55,000 shares of a par value of $100, and one general mortgage 6 per cent gold bond, series C, for $4,000,000, the stock and the bond to be delivered to the Santa Fe in payment of a like amount of the applicant's indebtedness to that road.

ATLANTIC COAST LINE.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a branch line extending from Goldsboro, N. C., to Smithfield, 21.5 miles.

ATLANTIC COAST LINE.—*Omits Extra Dividend.*—The directors of this company last week declared the usual $3.50 semi-annual dividend on the common stock but omitted the customary semi-annual extra of $1.50, thereby reducing the annual dividend basis from 10 per cent to 7.

BOSTON & MAINE.—*Common Dividend Deferred.*—The board of directors of the Boston & Maine on May 26 voted the regular dividends on the several classes of prior preference, first preferred and preferred shares of the railroad, payable July 1 to stock of record June 10. Action on the common stock dividend was deferred. "The April showing and that for the first four months," said the directors, "were very gratifying, and although they do not show anything actually earned on the common stock, they do show their proportionate share of a dividend at the rate of 4 per cent for the year based on the average contribution of those four months to the total earnings for the years 1924-1930 inclusive. Under all the circumstances, it is the opinion of the majority of the Board that the wise course is to defer action on the common stock dividend at this time, with the idea of paying during the year dividends upon the common stock as earned, rather than in anticipation of earnings."

BURLINGTON-ROCK ISLAND.—*Use of Terminal Facilities Authorized.*—The Interstate Commerce Commission on May 22 issued Service Order No. 51 authorizing this company to use the terminal facilities of the Galveston Terminal Company, until further order of the commission, on such terms as the carriers may agree upon, or, in event of disagreement as the commission may find to be just and reasonable

CHICAGO, HARVARD & GENEVA LAKE.—*Abandonment.*—The Interstate Commerce Commission has authorized this electric line to abandon that portion of its line extending from Harvard, Ill., to Walworth, Wis., 8.7 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—*Notes.*—This company has applied to the Interstate Commerce Commission for authority to pledge $15,037,000 of bonds now held in its treasury as collateral for short-term notes, stating that it is necessary to provide funds from sources other than earnings for its ordinary additions and betterments, its current expenses, its new construction now in progress, and general corporate purposes until business resumes normal volume or until it can make arrangements for funding capital expenditures now incurred or in progress. The directors have authorized a short-term loan of $7,000,000 and it is stated that others may be necessary.

CHICAGO, SPRINGFIELD & ST. LOUIS.—*Sale.*—This railroad, extending from Springfield, Ill., to Lock Haven, will be sold at public auction at 10 a.m. on June 25, in accordance with a decree issued by Judge FitzHenry in the federal district court at Springfield on May 21. The minimum bid which will be considered for the right of way, rolling stock and other equipment, was set at $200,000.

COLORADO & SOUTHERN. — *Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a portion of its narrow gage Central City branch extending from Black Hawk, Colo., to Central City, 3.5 miles.

ILLINOIS CENTRAL.—*Notes.*—The Interstate Commerce Commission has authorized this company to issue $20,000,000 of 3-year 4½ per cent notes which are authorized for sale to Kuhn Loeb & Co. at 98⅝ making the cost to the railroad approximately 5 per cent.

KANAWHA & MICHIGAN.—*Acquisition.*—This company has been authorized by the Interstate Commerce Commission to acquire certain properties of the Toledo & Ohio Central and the Zanesville & Western located in Perry and Athena Counties, Ohio. Operation of the properties involved will not be affected, the decision states; they will continue to be operated under lease by the New York Central, while the transfer to the K. & M. is expected to obviate the necessity for maintaining separate valuation sections and thereby avoid duplication of effort and expense in connection with accounting and valuation reports.

LOUISVILLE & NASHVILLE.—*Dividend Reduced.*—The directors of this company last week reduced its dividend rate from $7 to $5, by declaring a semi-annual dividend of $2.50.

MICHIGAN CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has authorized this road to abandon part of its East Jordan branch extending from Marble to East Jordan, Mich., 6.5 miles. The order also permits the New York Central to abandon operation of the branch.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—*New Director Elected.*—F. J. Sensenbrenner of Neenah, Wis., has been elected a member of the board of directors of this company to succeed John Crosby, resigned.

MINNEAPOLIS, ST. PAUL & SAULT STE.

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MARIE.—*Stanley, Merrill & Phillips Abandonment Application Denied.*—The Interstate Commerce Commission has denied the application of the Stanley, Merrill & Phillips for the abandonment of its line extending from Gilman to Walrath, Wisc., about 20 miles, and at the same time rejected the accompanying application of the Soo to abandon operation of the line. The S.M. & P. is operated under a lease which expires in 1933 and in denying its application the Commission held that this lessor road apparently has no function to perform during the continuance of the lease except to receive the rent. While the decision conceded that the Soo, because of the decrease in lumber traffic over the S. M. & P., was operating this line at a loss, it nevertheless held that such loss has not become burdensome and as the lease has only two more years to run it does not seem unreasonable to require continued operation for the present. Interests protesting against the abandonment had urged that the line was needed to serve an agricultural community which has developing in the region. Commissioner Mahaffie in a dissenting opinion held that the Soo application should have been granted and disagreed with the majority's reliance on the fact that in the past system revenues of the Soo on traffic originating or terminating on the S. M. & P. had been sufficient to pay the operating expenses of the latter. "Lumbering operations," he said, "produced the greater part of the system revenues. These operations have ceased. Neither is it proper, as I see it, to hold that *gross* revenues from system operations make good a *net* loss on the branch. It must, I think, be assumed that the Soo has some expense in handling its system traffic." With respect to the S. M. & P. the dissenting Commissioner took the position that the commission has no jurisdiction over the intrastate commerce of this line.

NEW YORK CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has authorized the Zanesville & Western to abandon and the New York Central to abandon operation of a line extending from North Corning, Ohio, southward to Drakes, 5 miles.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust.*—This company has applied to the Interstate Commerce Commission for authority for an issue of $2,595,000 of 4½ per cent equipment trust certificates, for which bids are to be asked.

PENNSYLVANIA.—*Acquisition and Operation.*—The Interstate Commerce Commission has granted authority to the Western New York & Pennsylvania, P. R. R. subsidiary, to acquire the properties of the Connecting Terminal Railroad Company in Buffalo, N. Y., and has authorized the Pennsylvania to operate the properties thus acquired.

PULLMAN COMPANY.—*New Director Elected.*—Henry S. Sturgis, vice-president of the First National Bank of New York has been elected a member of the board of directors of this company and Pullman, Inc., to succeed George F. Baker deceased.

ST. LOUIS-SAN FRANCISCO.—*Annual Report.*—The 1930 annual report of this company shows net income, after interest and other charges, of $18,405,650, as compared with net income of $22,692,454 in 1929. Selected items from the Income Statement follow:

	1930	1929	Increase or Decrease
Average Mileage Operated	5,837.18	5,819.80	+ 17.38
RAILWAY OPERATING REVENUES	$74,208,767	$89,109,286	—14,900,518
Maintenance of way ..	9,529,861	12,224,648	— 2,694,787
Maintenance of equipment	9,470,254	13,473,715	— 4,003,460
Transportation	26,069,558	29,259,175	— 3,189,617
TOTAL OPERATING EXPENSES ..	¶52,943,579	62,847,958	— 9,904,378
Operating ratio	71.34	70.53	+ .81
NET REVENUE FROM OPERATIONS	21,265,187	26,261,327	— 4,996,140
Railway tax accruals .	4,356,186	5,222,248	— 866,061
Hire of equipment —Net	144,916	156,952	+301,868
Joint facility rents—Net	186,131	155,126	+ 31,004
NET RAILWAY OPERATING INCOME	16,565,640	21,028,240	— 4,462,599
Non-operating income	1,993,856	1,897,127	+ 96,728
GROSS INCOME	18,559,496	22,925,367	— 4,365,870
TOTAL DEDUCTIONS FROM GROSS INCOME	153,846	232,912	— 79,066
NET INCOME	18,405,650	22,692,454	— 4,286,804

¶ Items marked thus include credits totaling approximately $686,000 relating to prior years.

Dividends Declared

Atlantic Coast Line Railroad.—Common, $3.50, semi-annually, payable July 10 to holders of record June 12.

Boston & Albany.—2½ per cent, quarterly, payable June 30 to holders of record May 29.

Boston & Maine.—7 Per Cent Prior Preferred, $1.75, quarterly; First Preferred A, $1.25, quarterly; First Preferred B, $2.00, quarterly; First Preferred C, $1.75, quarterly; First Preferred D, $2.50, quarterly; First Preferred E, $1.12½, quarterly; Six Per Cent Preferred, $1.50, quarterly; all payable July 1 to holders of record June 10.

Buffalo & Susquehanna.—Preferred, 2 per cent, semi-annually, payable June 30 to holders of record June 15.

Chicago, Burlington & Quincy.—$5.00, semi-annually, payable June 25 to holders of record June 18.

Consolidated Railroads of Cuba.—Preferred, 1½ per cent, quarterly, payable July 1 to holders of record June 10.

Illinois Central (Leased Lines).—2 per cent, payable July 1 to holders of record June 11.

Louisville & Nashville.—Common, 2½ per cent, semi-annually, payable August 10 to holders of record July 15.

Maine Central.—Common, $.75, payable July 1 to holders of record June 15.

New York, New Haven & Hartford.—Common, $1.50, quarterly; Preferred, $1.75, quarterly, both payable July 1 to holders of record June 5.

Southern Pacific Co.—1½ per cent, quarterly, payable July 1 to holders of record May 28.

Average Prices of Stocks and of Bonds

	May 26	Last week	Last year
Average price of 20 representative railway stocks.	65.57	65.43	127.95
Average price of 20 representative railway bonds..	91.38	91.63	93.53

Railway Officers

EXECUTIVE

Horace G. Jenkins, assistant to the president and general manager of the Northwestern Pacific, with headquarters at San Francisco, Cal., retired from active duty on May 1, following a year's leave of absence because of ill health. Mr. Jenkins has spent nearly 36 years in the service of the Oregon-Washington Railroad & Navigation Co., the Southern Pacific, and the Northwestern Pacific.

TRAFFIC

D. R. Hickok has been appointed supervisor of mail and express service of the Chicago & North Western, with headquarters at Chicago, succeeding **W. P. Stoughton,** who retires from active duty on June 1.

J. W. Graham, assistant freight traffic manager of the New York, Chicago & St. Louis, with headquarters at Toledo, Ohio, and formerly vice-president in charge of traffic of that road, has been appointed general traffic manager of the Pittsburgh & West Virginia, with headquarters at Pittsburgh, Pa., succeeding **V. A. Wholey,** who has resigned, effective June 1.

J. F. Hennessey, Jr., executive general agent for the Missouri-Kansas-Texas at Houston, Tex., has been promoted to passenger traffic manager of those lines, with headquarters at St. Louis, Mo., and Dallas, Tex., succeeding **J. W. White,** who has been appointed assistant to the

J. F. Hennessey, Jr.

executive vice-president, with headquarters at Dallas. Mr. Hennessey has been connected with the Katy for 18 years. He was born at St. Louis and attended various public and private schools in that city, and high school at Fort Smith, Ark. In 1910 he obtained his first railroad ex-

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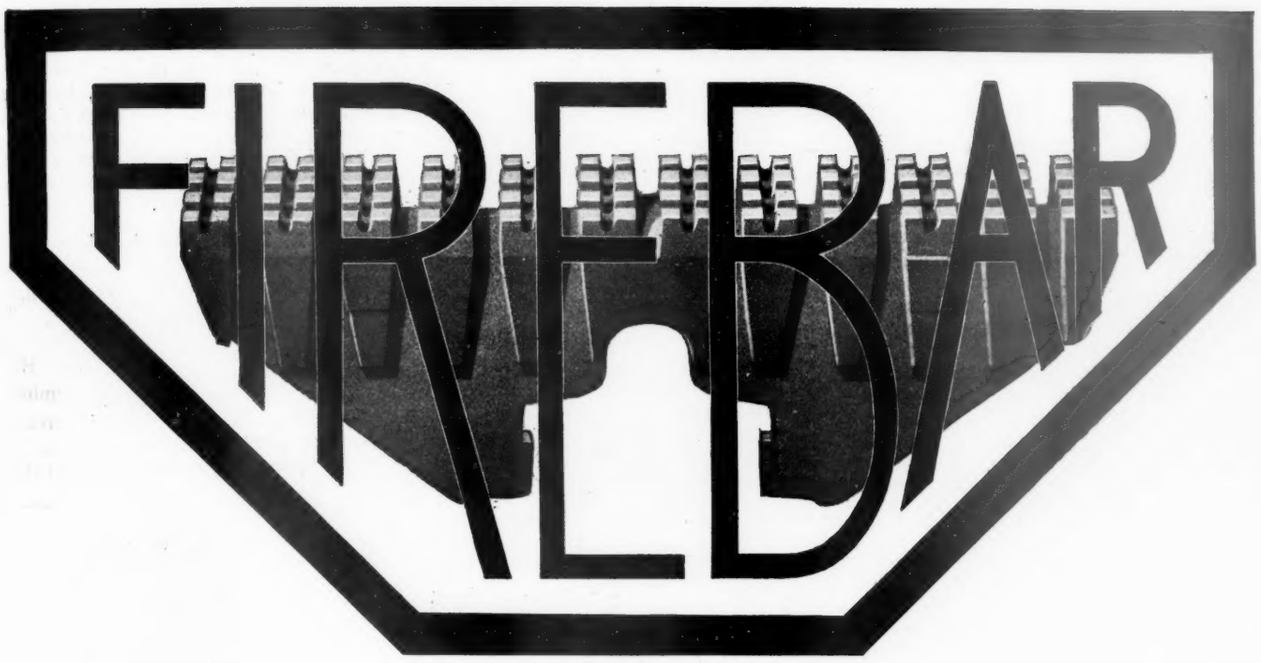

BETTER FIRES

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perience as a clerk in the M. K. T. freight office at Dallas. Later he served as chief clerk to the assistant general freight agent, and as contracting agent at Houston. During the World War Mr. Hennessey served as a captain in the Three Hundred Forty-Fourth Machine Gun battalion in France, and with the Army of Occupation in Germany. He returned to railway service in 1920 as division freight agent on the Katy at Austin, where he remained until 1921 when he was transferred to Houston. In 1926 he was promoted to assitant general freight agent at Houston, and later in the same year he was transferred to Dallas. He was promoted to general freight agent at St. Louis early in 1927 and became executive general agent at Houston on June 1, 1929.

Mo. Pac. Reorganizes System Passenger Traffic Direction

The Missouri Pacific has begun the complete reorganization of the passenger services on its lines by taking, as the first step, the unification of traffic solicitation for the entire system. Paul J. Neff, now assistant to the president of the Missouri Pacific and vice-president and general manager of the Missouri Pacific Transportation Company, with headquarters at St. Louis, Mo., has been also appointed assistant vice-president of the Missouri Pacific Lines, in charge of passenger traffic, effective June 1.

Mr. Neff announced that the Missouri Pacific plans to make a "most determined effort to put a stop to passenger traffic losses by a complete co-ordination of all the passenger carrying facilities of all its lines, and by unification of its passenger traffic solicitation. Organization of solicitation on a system-wide and nation-wide basis is the first step, and with this end in view additional changes will be effected."

C. W. Strain, passenger traffic manager of the Texas lines of the Missouri Pacific, with headquarters at Houston, Tex., and C. K. Bothwell, general passenger agent at Little Rock, Ark., in charge of solicitation on the Southern district, have been appointed assistant passenger traffic managers for the system, with headquarters at St. Louis. The jurisdiction of J. G. Hollenbeck, assistant passenger traffic manager of the Missouri Pacific proper at St. Louis, has been extended over the system. A. D. Bell, passenger traffic manager at St. Louis, has been appointed assistant passenger traffic manager of the Texas lines at Houston, to succeed Mr. Strain.

Mr. Neff, a native of St. Louis, graduated from a course in civil engineering at the University of Kansas in 1906. He obtained his first railway experience in February, 1907, as a rodman on the St. Louis-San Francisco at Joplin, Mo. Later he served as transitman and assistant engineer on the Frisco at Springfield, Mo., as assistant engineer and engineer of construction at Memphis, Tenn., St. Louis and Springfield, and as district engineer at the latter point. From September, 1918, to December, 1919, he was corporate chief engineer of the Frisco, during federal control of the railroads. From January, 1920, to December, 1922, he served successively as general manager of the Wichita Falls, Ranger & Fort Worth and the Wichita Falls & Southern at Ranger, Tex., and as chief engineer of the Texas lines of the Frisco at Fort Worth, Tex. Mr. Neff then became assistant to the president of the International-Great Northern at Houston, and in February, 1925, he was appointed assistant executive vice-president at Houston. In June, 1926, he was appointed general superintendent of the Eastern district of the Missouri Pacific at St. Louis, becoming assistant to the president on September 1, 1928. In the latter capacity, and as vice-president and general manager of the Missouri Pacific Transportation Company, he planned the organization of the railroad's motor coach subsidiary.

Paul J. Neff

ENGINEERING AND SIGNALING

John S. Ekey, supervisor of structures on the Bessemer & Lake Erie, with headquarters at Greenville, Pa., who has been promoted to engineer of bridges and buildings, with the same headquarters, was born on March 8, 1879, at Pittsburgh, Pa., and was graduated from Allegheny College in 1902. He entered railway service in the engineering corps of the Pittsburgh & Lake Erie in June, 1902, and in November, 1903, left that road to enter the engineering department of the city of Pittsburgh. In June, 1906, he became chief construction engineer of the Meadville & Conneaut Lake Traction Company at Meadville, Pa., and in February, 1910, became assistant engineer of the Pittsburgh Flood Commission, at Pittsburgh. In November of that same year he became draftsman of the city of Pittsburgh and in April, 1914, was appointed city manager of Grove City, Pa. In June, 1916, he entered the valuation department of the Bessemer & Lake Erie, and in October, 1919, he became supervisor of structures on that road with headquarters at Greenville, Pa., which position he was holding at the time of his recent promotion to engineer of bridges and buildings.

John S. Ekey

Frank R. Layng, who has been promoted to chief engineer of the Bessemer & Lake Erie, with headquarters at Greenville, Pa., has been connected with that railroad for nearly 31 years. He was born at Salem, Ohio, on September 9, 1878, and attended public and private schools at Allegheny City, Pa. Later he received his engineering education at the University of Pittsburgh and on October 1, 1897, he entered railway service as a rodman on the Buffalo & Allegheny division of the Pennsylvania. In the following year he became a draftsman on the Pennsylvania, and on July 1, 1900, he was appointed to a similar position on the Bessemer & Lake Erie. Mr. Layng was advanced to assistant engineer on November 1, 1902, to engineer of bridges on December 1, 1905, and to engineer of track on May 1, 1906. In 1926 he was promoted to assistant chief engineer, a position he held until his further promotion to chief engineer on May 1.

Frank R. Layng

Henry T. Porter, chief engineer of the Bessemer & Lake Erie, with headquarters at Greenville, Pa., who retired from service on May 1, was born on January 10, 1859, at Piedmont, W. Va., and was graduated from Baltimore City College in 1880. He entered railway service with the Baltimore & Ohio in March, 1881, on

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the extension from Baltimore to Philadelphia. Later in that year he became transitman and assistant engineer on the New York, West Shore & Buffalo (now part of the West Shore), and in April, 1884, he went with the West Virginia Central & Pittsburg (now part of the Western Maryland). In May of that same year he went to the South Penn railroad. During 1885 and 1886 he was contractor's engineer on the Howard University Terminal, at Washington, D. C., and then became resident engineer and general roadmaster on the Toledo, St. Louis & Kansas City (now part of the Nickel Plate System). In September, 1897, he became connected temporarily with the Continuous Rail Joint

Henry T. Porter

Company of America. Later in that year he became engineer maintenance of way of the Pittsburgh, Bessemer & Lake Erie, and in 1898 he was promoted to chief engineer of its successor, the Bessemer & Lake Erie, which position he was holding at the time of his retirement. From 1902 to 1906, Mr. Porter also acted as chief engineer in charge of location and construction of the Western Allegheny.

O. V. Derr, recently appointed valuation engineer of the Erie, with headquarters at New York, was born on April 27, 1885, at Needham, Mass., and received his education at the Stevens School, and at Stevens Institute of Technology. Mr. Derr began his railroad career in July, 1904, with the Baltimore & Ohio, and held several positions in the survey and construction departments, until September, 1906, when he was appointed assistant engineer of the New York division. From July, 1908, to March, 1910, he served as assistant engineer of the New Jersey and Lehigh divisions of the Lehigh Valley, re-entering the service of the B. & O. in March, 1910, and remaining until December of that year. From December, 1910, to July, 1911, he served as field engineer with Eyre-Shoemaker, Inc., railroad contractors, at Philadelphia, Pa., and during the next seven months acted as construction inspector for the Boston & Albany, while the Union station at Worcester, Mass., was under construction. In February, 1912, he entered the service of the Erie as resident engineer of the Marion-Kenton (Ohio) section of the Chicago division. One year later he was appointed first resident engineer in charge of the Ohio district of the same division and from November, 1915, to March, 1918, he served as resident engi-

O. V. Derr

neer of the Secaucus (N.J.) engine terminal. During the period from March, 1918, to August, 1919, he served as captain of engineers with the United States Army in France, acting as chief railway transport officer and chief troop movement officer, 14th Grand division, Transportation Corps, A.E.F. He returned to the Erie in August, 1919, as resident engineer, and in June, 1929, he was appointed general office engineer of the system, which position he held until his recent promotion.

OBITUARY

C. E. Ward, industrial commissioner of the Erie since 1928, died at Jersey City, N. J., on May 19. Mr. Ward was 43 years of age, and had been ill for a month.

William W Hattan, assistant general passenger agent of the Denver & Rio Grande Western, with headquarters at Denver, Colo., died on May 23 at St. Josephs hospital in that city.

Andrew Mitchell, Jr., superintendent of terminals and general agent of the Chesapeake & Ohio at Lexington, Ky., died at the Good Samaritan hospital in that city on May 20, at the age of 71 years. Mr. Mitchell was born at Jersey City, N. J., and obtained his first railway experience on the Chesapeake & Ohio at Lexington as a clerk in 1881. Later he served as agent at Winchester, Ky., and as freight agent and general agent at Lexington. He was appointed superintendent of terminals and general agent in 1920.

Edward Dean Adams, engineer and financier, died on May 20, at his home in New York, as a result of an illness that followed partial recuperation from injuries suffered in an automobile accident. Mr. Adams was born in Boston, Mass., on April 9, 1846, and was educated at Norwich University at Northfield, Vt., and Massachusetts Institute of Technology. He organized the Northern Pacific Terminal Company of Portland, Ore., the St. Paul & Northern Pacific (now part of the Northern Pacific), of which he was vice-president from 1883 to 1887, and the New Jersey Junction Railroad Company (now part of the West Shore); re-organized the Central of New Jersey and had a part in the re-organization of the New York, Ontario & Western, the West Shore and the Ontario Terminal Company and affiliated interests. In 1893, he participated in the re-organization of the Northern Pacific; and in the financing of a merger of the Chicago & Northern Pacific and the Chicago & Calumet with the Chicago Terminal Transfer Company of which he was president from 1897 to 1901.

Harry Parry, passenger traffic manager of the New York Central and the West Shore, died of heart disease on May 23, in his home at Mount Vernon, N. Y. He was 65 years old. Mr. Parry entered railway service in 1893, with the Great Western (now part of the Canadian National), as messenger in the traffic manager's office at Hamilton, Ont. Later he served as stenographer in the rate and freight claims departments of that road and in similar positions with the Grand Trunk and the Northern & North Western (both now parts of the C. N. R.). In September, 1885, Mr. Parry entered the service of the West

Harry Parry

Shore as clerk to general agent in the passenger department and assistant city passenger and ticket agent. Before the end of that year he became assistant city passenger and ticket agent of the New York Central & Hudson River and the West Shore, advancing to agent in 1889, in which capacity he worked for eight years. His next promotion was in 1897, to the position of general agent of the passenger department of the same roads, where he remained for 19 years. From January, 1916, to September, 1918, he served as assistant general passenger agent. In 1918, Mr. Parry was transferred to New York as general passenger agent. In 1928 he became assistant passenger traffic manager, and in 1929, manager, the position he held until his death.